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RELATION OF ORTHOPEDIC SURGERY TO INDUSTRIAL SURGERY *

ROLAND HAMMOND, M.D.

PROVIDENCE, R. I.

The development of orthopedic surgery manifests a continuous, healthy growth from its humble beginnings in a past age. Born from the urgent needs of countless crippled and deformed who covered the civilized earth, it has attained a healthy manhood in the most pregnant era of the world's history. The present generation of physicians has seen this specialty develop from a guild of bracemakers to a fraternity of bone and joint surgeons whose operations cover a fairly large area of the human body.

This endeavor has been accomplished by hard and aggressive work. It was first necessary to convince the general surgeon that the treatment of deformities could be better carried out by the orthopedist, as he was then called. This was the first step in the emasculation of modern orthopedic surgery. With the general surgeon devoting himself to the fascinating problems of abdominal surgery, which was then developing into a splendid science, it was but natural for the orthopedist to concentrate on bone and joint surgery. He did this so well, in the majority of cases, that he became known as an orthopedic surgeon, and was received into the ranks of those who may safely be entrusted with the scalpel.

Then came the World War, providing varied and remarkable opportunities for work and development. For the first time in his career—speaking for the great mass of the specialty—the orthopedic surgeon was assigned to the treatment of fresh fractures and of deformities in the incipient stage. To be sure he entered by the back door, for he was supposed merely to supervise the application of the necessary splints after the surgical operation had been performed. He was not yet fully to be trusted with the surgical care of this class of patients. He was, however, fortunately situated. New methods of treatment were being brought forth daily. He witnessed the evolution of the Dakin-Carrel method of wound sterilization; the new work on osteomyelitis and nerve surgery; the lessons of bone-grafting; the successes and failures of complicated joint fractures.

When the orthopedic surgeon returned to civil practice, it gradually dawned on him, as the same light came to others who had witnessed the transformation of those short, active years, that this had all been a preparation for a greater opportunity for usefulness.

In certain communities in this country it had been recognized for several years that the properly trained orthopedic surgeon was the logical man to treat fresh fractures. Whether the fracture is simple or compound, the treatment is principally mechanical, and as such it naturally fell into the hands of the surgeon who had proved himself competent to treat such accidents. Since the war, the orthopedic surgeon has been more often consulted in cases of severe fracture. In some hospitals he has been asked to assume the care of fresh fractures of the extremities. Cases of osteomyelitis have lately been placed in his hands. He has more frequently been asked to advise in cases of nerve injury, bone-grafting and deformities following accident. Where he was formerly asked to apply the external splint, he has lately been requested to insert the internal splint.

THE FIELD OF INDUSTRIAL SURGERY

If our premises are well founded, all this experience means that the orthopedic surgeon has arrived at the threshold of the greatest opportunity in his career—the invasion of the field of industrial surgery. The thought is not a new one. Other authors have ably pointed the way. I wish to emphasize somewhat specifically the means by which the orthopedic surgeon may have a part in a great movement.

It is a far cry from the day when the injured employee of an industrial plant was sent to the nearest physician for treatment, or was placed under the care of a medical man who served all the employees under the contract plan. Many of the largest industrial plants in the country now employ full-time physicians who have had special training in industrial hygiene and in the treatment of diseases and accidents. Schools of industrial hygiene are being established in medical schools in this country. A flourishing periodical, the *Journal of Industrial Hygiene*, has recently been added to our current literature. The handwriting is on the wall. The medical profession must interest itself in this remarkable movement for improving the working conditions of employees, and in the treatment of them when ill or injured.

In this movement, orthopedic surgery has a definite place. Many large industrial plants have appointed a staff of physicians, including all specialties, to furnish medical attention to their employees. More industrial organizations will adopt this plan in the near future. This can be done in much the same way in which consultants served on examining boards during the selective draft examinations in the late war. By such a procedure many a disabling condition will be recognized early, and proper treatment can be instituted. Many otherwise efficient laborers will be restored to the ranks of those fit to work, or will be eliminated, if unfitted for this particular industry.

* Chairman's address, read before the Section on Orthopedic Surgery at the Seventy-First Annual Session of the American Medical Association, New Orleans, April, 1920.

In the actual treatment of injuries, the orthopedic surgeon will be consulted in cases of severe and complicated fractures, especially those involving joints; in nerve injuries resulting in potential deformities; in severe tendon injuries; in cases of bone and joint disease occurring during employment. If the case is one which the orthopedic surgeon is preeminently fitted to treat, it should be assigned to him as early as possible after the injury, in order that every reasonable means for preventing deformity and securing early function may be employed. It is unfair to both patient and orthopedic surgeon, and disheartening to the latter, if a patient is turned over to him when it is too late to secure the best functional result, or when the treatment consists in the correction of a preventable deformity. If he is to be entrusted with the care of the case at all, he should be permitted to see the patient early.

The after-treatment in these cases is most important. Bakings, massage and active and passive movements are effective only if the best possible result has been obtained by previous surgical and mechanical measures. A potential ankylosis will not be greatly benefited by the use of physical therapeutics.

PROBLEM OF THE CONVALESCENT EMPLOYEE

The convalescence is the most critical period of the disability for the employee, for the employer and for the surgeon. Cooperation between these three factors is absolutely essential in the future, or else industrial conditions will be seriously disturbed. The time lost to production in this country by inability to put the injured employee back in his proper place at the earliest moment is appalling when reduced to figures. More serious, perhaps, is the effect on the morale of the worker himself. A slight influence is sometimes enough to turn an industrious workman into a park bench loafer. A man who occupies a hospital bed for eight weeks while a fractured femur is knitting often needs a bit of uplift to turn his steps into the road of sober industry again.

Employers and insurance carriers should seek the advice and cooperation of the surgeon, and work through the medium of the nurse and social worker. Employment should be provided for the idle man. This should begin while he is still in bed or incapacitated, and as soon as he is able to get to his work he should be given some kind of useful employment. It is just here that the surgeon and the nurse or social worker can be of the greatest assistance to the employer. Too often the superintendent or the foreman of a department is told to give a convalescent light work, without being informed as to the ability of the patient to work. Being more interested in securing efficient production in his department than he is in helping to restore this workman to health, the foreman quickly loses interest when he finds that the employee is, for the moment, a negligable factor in production. The result is that the injured man is allowed to drift, and his name is simply kept on the pay-roll until he is able to work, or is discharged as incompetent.

The surgeon can suggest types of work which the employee can undertake at this stage in his convalescence, and the nurse and social worker, by visiting the working parts of the plant, can see to it that the worker so employs his time that his injured part shall be restored most quickly to usefulness. By this means he will be prevented from losing the will to work, which is all essential to his future.

Workmen's compensation laws have done much thus far to improve the treatment of the injured employee by providing prompt and skilful medical attention, and by relieving mental anxiety through the payment of compensation during the period of disability. The weak link in the chain is the period of convalescence, during which the employee needs friendly coaching to prepare him, physically and mentally, for his occupation. This is more important, of course, in what may be termed orthopedic injuries, than in any other class of accidents, on account of the long period of disability. In schemes of cooperation, hitherto, the medical man has generally been overlooked. He should assert his position and point out the dangers of the convalescent period, for he is the one essential factor in the successful solution of the problem. Let him but urge the need of cooperation in this matter, and it will speedily be brought about.

RENAL GLYCOSURIA *

JAMES EDGAR PAULLIN, M.D.
ATLANTA, GA.

By the term "renal glycosuria," often incorrectly called "renal diabetes," is meant an abnormal permeability of the kidney to glucose while the sugar content of the blood remains within normal limits and the tissues of the body retain their power to utilize carbohydrates in a normal way. There accompanies this condition a constant, slightly variable glycosuria which, in the majority of the reported cases, is only slightly, if at all, affected by diet: the usual symptoms of diabetes, namely, polyuria, polydipsia, polyphagia, loss of weight, etc., are conspicuous by their absence.

Certainly this condition is not common, according to our present belief; on the other hand, there are probably many more patients under treatment for mild diabetes who really have renal glycosuria than our present knowledge would indicate. The simplified and more general use of methods for the study of blood sugar will be of great benefit in differentiating this group of cases. The recent article by Allen [1] reporting three cases of renal glycosuria among forty cases of supposed diabetes, sent to U. S. Army General Hospital No. 9, is of the greatest interest and has given new impetus to the study of this condition.

The disease, as in the case herewith reported, is usually discovered during the course of a routine physical examination for some other condition, or the patient may be rejected for life insurance because of the discovery of sugar in the urine. The present case is particularly interesting since when the patient was first seen, four years ago, it was thought that he had so-called renal diabetes, although at that time this opinion was held without having sufficient proof that such was the case; since then, however, laboratory investigations have confirmed the clinical diagnosis.

REPORT OF CASE

History.—Mr. D., No. 3104, aged 23, white, single, clerk in a hardware store, came under observation, Aug. 30, 1916. His family, consisting of a father, aged 52, a mother, aged 46, a brother, aged 18, and a sister, aged 16, were all living and

* Read before the Section on Practice of Medicine at the Seventy-First Annual Session of the American Medical Association, New Orleans, April, 1920.

1. Allen, F. M.: Three Cases of "Renal Glycosuria," Arch. Int. Med. **24**: 523 (Nov.) 1919.

well; no brothers or sisters were dead. There was no history of tuberculosis, cancer, nervous or mental diseases, or diabetes mellitus in the family. The urine from all members of the family had been examined many times and found to be sugar free. The patient had had typhoid fever at 16 years of age, and was sick about one month. There were no complications, and recovery was complete. He had had measles at 18, a very mild attack, with no complications; he was in bed only one day. His general health had always been very good, he had had no sicknesses except those mentioned. Occasionally he had a slight headache, not particularly severe,

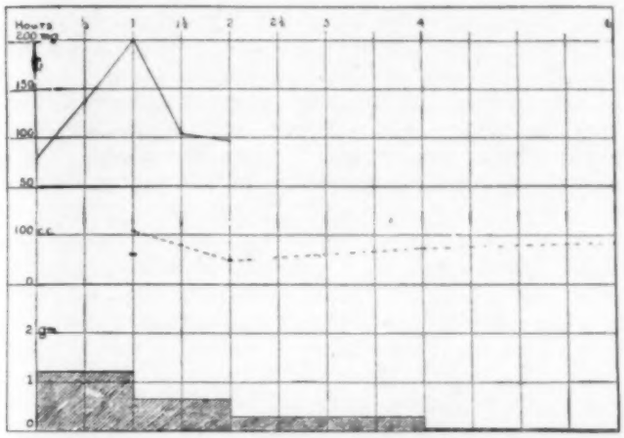

Chart 1.—Patient's response to a meal of 98 gm. of glucose: solid line, blood sugar response in milligrams per hundred cubic centimeters; broken line, urine volume response; shaded area, sugar output.

which was precipitated by constipation. The appetite was good; he ate anything and everything that he desired, and he never suffered with indigestion or abdominal pains of any character. He urinated three or four times during the day, never at night; he had never noticed any excessive urination, nor had he had any pain on voiding or any blood in the urine. The bowels were regular; there was no diarrhea or dysentery. He slept well, always averaging about eight hours; took a great deal of outdoor exercise, walking, golf, basket ball and various other sports; smoked about twenty cigarets daily; had never used alcohol except for an occasional drink, and had lost no weight, his average weight being 125 pounds. For the last five or six months he had been troubled considerably with acne pustules on the face, which he said had been worse during the last three or four weeks and he desired something done for this condition.

Physical Examination.—The patient was well built and muscular and was 5 feet 6 inches tall. The skin presented a healthy color except for the presence of a few acne pimples on the face and neck. The pupils were equal and reacted to light and accommodation. The eye movements were normal, the field of vision, tested roughly, was apparently normal, the sclera was clear, and there was no edema of the lids. There was no discharge from the ears; the ear drums were apparently normal; hearing was 20/20. The anterior and posterior cervical glands were not felt; the axillaries were slightly palpable, and the epitrochlears and inguinals were not enlarged. The thyroid was apparently normal in size. The teeth were in fairly good condition, although a subsequent roentgen-ray report showed that four had some infection about the roots; there was a very slight pyorrhea. The tonsils were easily seen, but presented no marked evidence of infection.

The chest was well formed; expansion was good and was equal on the two sides; tactile fremitus was normal; the percussion note was clear, and auscultation elicited distinct breath sounds that were apparently normal and free from râles.

On examination of the heart, the point of maximum intensity was seen and felt in the fifth interspace, 8.5 cm. to the left of the midsternal line; dulness, 9.5 cm.; no increase, to the right; there was no increase in the retrosternal area of dulness; the heart sounds at the apex and base were clear and of normal relative intensity. The pulse rate was 80 per minute, regular in force and rhythm and small in volume; the radial, axillary and temporal arteries were not felt. The systolic blood pressure was 120 mm. of mercury, and the diastolic, 80 mm.

The abdomen was scaphoid; the edge of the liver was not felt; there was no tenderness or mass to be made out in the region of the epigastrium. The right and left kidneys were both palpable, the right descended markedly; the upper pole was palpable but was not tender, and apparently not enlarged. The spleen was not felt, and the area of dulness was not increased.

The genitalia were normal, the prostate was not enlarged or tender and there was no history of venereal infection.

The knee jerks were present, but not exaggerated. Other reflexes were normal. There was no thickening about any of the joints. The spine was straight; there was no lordosis or kyphosis. The muscular strength was very good; there was no disturbance of sensation, and no tremors were made out. Rectal examination revealed only a few small hemorrhoids.

Laboratory Examinations.—Blood examinations revealed: red blood corpuscles, 4,600,000; white blood corpuscles, 6,800; hemoglobin, 90 per cent. Differential count revealed nothing abnormal. The Wassermann reaction was negative. The specific gravity of a casual specimen of urine was 1.023. It contained a marked trace of albumin, very heavy sugar, no acetone or diacetic acid, an occasional leukocyte and an occasional hyaline cast. A twenty-four hour specimen consisted of 1,650 c.c.; it was of acid reaction; the specific gravity was 1.026; there was a moderate trace of albumin; sugar was 2.1 per cent. There was no acetone or diacetic acid; an occasional hyaline cast was observed. Night and morning specimens of urine were collected separately. It was soon observed that the albumin in the morning specimen was decidedly less than in the night specimen, and after a period of rest for twenty-four hours it would disappear. (This condition was regarded as postural albuminuria.) It was also found that no relationship could be shown to exist between the amount of sugar excreted and the amount of albumin present in the

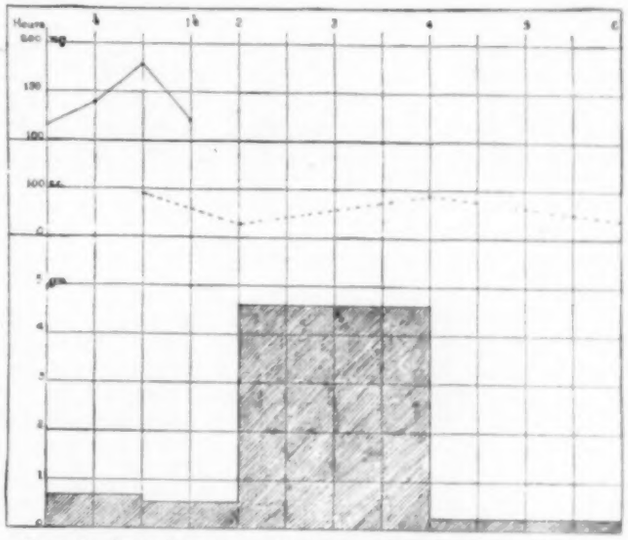

Chart 2.—Patient's response to the ingestion of 147 gm. of glucose; solid line, blood sugar response in milligrams per hundred cubic centimeters; broken line, urine volume; shaded area, sugar output.

urine. Repeated and numerous examinations of single and twenty-four hour specimens of urine were made, all showing the presence of sugar of from 0.5 per cent. to 2.1 per cent. The phenolsulphonephthalein output in two hours was 65 per cent. Examination of the feces was negative. No blood sugar studies were made at this time.

Treatment and Progress.—This at first was regarded as a case of very mild diabetes mellitus because, on an unrestricted diet, the patient's total sugar output for the twenty-four hours

was small. An attempt was made by restricting the amount of carbohydrate and protein intake to free him completely from sugar; we were never successful in having him sugar free for any length of time, even on the most restricted diet. As a result of these dietetic experiences, it was noted that the twenty-four hour output of sugar was almost as much on a diet low in carbohydrate and protein as it was when the diet was unrestricted. Consequently, after a convincing trial and complaint on the part of the patient of weakness and loss of weight, he resumed his usual amount of food with the result that he regained the lost weight and continued his work in comfort, although glucose was constantly present in the urine. After this experience, several times repeated, it was apparent that the disease was not a true diabetes mellitus, but one of "renal diabetes." For over three years he was practically on an unrestricted carbohydrate diet, and now the glycosuria is no greater than when he first came under observation. He enjoys excellent health and shows no clinical evidence of diabetes.

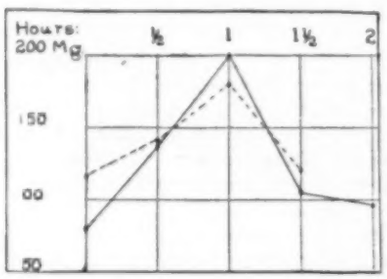

Chart 3.—Blood sugar response as influenced by the ingestion of varying amounts of glucose; solid line, patient received 1.75 gm. per kilogram of body weight (98.9 gm.); broken line, patient received one half as much in addition (147 gm.).

RESULTS OF STUDIES TO DETERMINE NATURE OF THE DISEASE

The patient made many attempts to enter various officers' training camps during the recent war, but he was always rejected because of the presence of sugar in the urine, although he finally did get into some form of government service. After his return from this service, the studies recorded in the accompanying charts were undertaken to establish more clearly the nature of the disease.

Chart 1 represents the patient's blood sugar, urinary sugar and urine volume response to a meal of 98 gm. of glucose given according to the method of Janney and Isaacson.[2] The rise of blood sugar was within normal limits, and the urinary sugar distinctly increased with the height of the blood sugar curve; but the output was small in comparison with the intake. In other words, with increased glycemia, there is an increased glycosuria, but no increase in the total amount of urine voided.

Chart 2 represents the patient's blood sugar, urinary sugar and urine volume response after the ingestion of 147 gm. of glucose, which was half as much again as was given for Chart 1. The response on the part of the blood to the ingestion of the increased amount of glucose was a higher rise in the blood sugar curve; on the part of the urine, there was a marked increase in the total output of glucose from the second to the fourth hour, again returning to the usual amount of sugar after six hours. One and one-half hours after the ingestion of such a large amount of glucose, the patient showed a slight reaction evidenced by itching of the skin, puffiness about the face, weakness, giddiness and nausea, from which he recovered in two hours. Chart 3 is a combination of Charts 1 and 2, for comparison.

Chart 4 represents the response on the part of the patient to the ingestion of 98 gm. of glucose dissolved in 245 c.c. of water, with the added juice of one lemon. In addition 200 c.c. of water were given every half hour in order to determine the effect of diuresis on the amount of sugar excreted. The blood sugar curve ran unusually high (we have observed in normal persons that such a response occurs when water is given in this way), but returned to its level in two and one-half hours. The urine output was markedly increased, amounting during the period of the test to 1,158 c.c., and the output of sugar amounting to 7.18 gm. The concentration of the urinary sugar was never higher than 1.5 per cent.; the lowest is 0.3 per cent. It would seem from this that with an increased excretion of urine, there is an increase in the sugar output.

Chart 5 shows the results of a recent study to determine the effect of diets, with varying amounts of carbohydrate, protein and fat, on the blood sugar, urinary sugar and urine volume in this patient. Fasting for three days caused the blood sugar to remain practically the same; the sugar output in grams slightly diminished with a slight diminution of the percentage of sugar in the urine. There was no change in urine volume. On a diet rich in carbohydrates, the daily blood sugar percentage remained practically the same; there was a slight increase in the twenty-four hour urinary sugar output, and very little change was noted in the percentage of urinary sugar. The urine volume was not increased. It is interesting to note that with a diet rich in proteins, the blood sugar percentage showed a rather marked increase; and coincident with the increase in the blood sugar there was a slight increase in the amount of the daily urinary sugar output, but no increase of moment in the volume of urine excreted. Allen [1] previously noted the effect of a high protein diet on the blood sugar in patients with renal glycosuria. The remainder of the chart shows the results of examinations made while the patient was on an unrestricted diet; no changes of moment were noted either in the blood sugar, urinary sugar or urine volume.

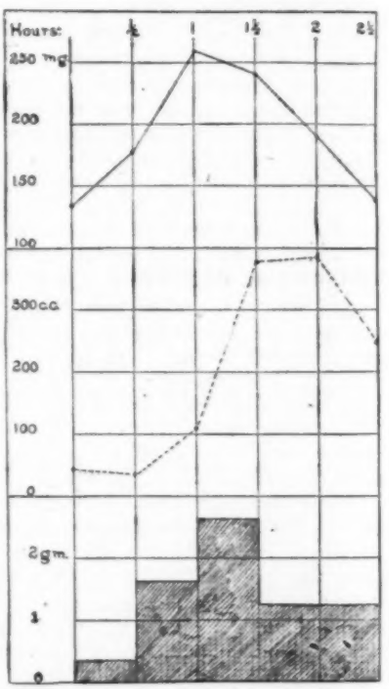

Chart 4.—Patient's response to ingestion of 98 gm. of glucose dissolved in 245 c.c. of water, with the juice of one lemon added: solid line, blood sugar response in milligrams per hundred cubic centimeters; broken line, urine volume; shaded area, sugar output.

METHODS OF DETERMINING THE PRESENCE OF GLUCOSE

The methods used in determining the presence of glucose in this patient were the copper reduction tests, fermentation test, the formation of osazone crystals with phenylhydrazin, and the determination of the melting point of the crystals. The percentage of

2. Janney, N. W., and Isaacson, V. I.: A Blood Sugar Tolerance Test, J. A. M. A. **70**: 113 (April 20) 1918.

urinary sugar was determined with the polariscope and Benedict's quantitative method.[3] Blood sugar determinations were made by the Lewis-Benedict method [4] and Epstein's method.

I believe that from these studies and the length of time the patient has been under observation, I am justified in terming this a case of renal glycosuria. It does not seem necessary or expedient to review the reported cases of this disease, as this has been recently done by Lewis and Mosenthal;[5] Bailey;[6] Beard and Grave,[7] and Williams and Humphreys.[8]

The essentials as agreed on by the majority of writers for the diagnosis of this condition are:

1. A normal blood sugar content of between 70 and 110 mg. per hundred c.c. of blood.

2. The constant presence in the urine of sugar which is definitely known to be glucose.

3. Little, if any, change in the glycosuria on increase or decrease in the carbohydrate content of the diet.

4. An absence of the usual symptoms of diabetes mellitus.

SUMMARY

It seems to be fairly well established that there is a condition in which the kidney is abnormally permeable to glucose. The exact nature, cause and the factors determining this permeability are little understood. Many of the cases show many points of resemblance to phlorizin glycosuria. Among the reported cases there are varying degrees of renal permeability to glucose; whether these are early or late stages in the progress of the disease or the result of a greater or less pathologic condition of the kidney is yet to be determined. Few of the patients have been observed for a sufficient length of time to determine definitely whether they develop a true diabetes mellitus or not, although it would seem that such does not occur and the existence of the condition is not incompatible with a normal existence. In the case here reported, during the four years of observation, there has been no demonstrable progress of the disease. The condition, if it is a clinical entity and if it is due solely to an increased renal permeability, offers certain definite problems for future study.

811-817 Hurt Building.

ABSTRACT OF DISCUSSION

DR. NELSON W. JANNEY, Santa Barbara, Calif.: The blood glucose tolerance test proposed by Hammond and Hirschman and as modified by me has proved of greatest value in determining the existence of renal glycosuria. It seems as if in typical cases of renal glycosuria we should expect a perfectly normal blood glucose curve, yet in Dr. Paullin's case the curve is higher than normal. The blood sugar reaction appears to remain unchanged by an increased diet, although there is a slight increase in the urinary sugar. One can, however, be deceived in judging these cases merely by the height of the blood sugar. I have seen cases, particularly in children, in which the blood sugar had not risen over twelve, or at the most thirteen parts per ten thousand of blood, but which presented all the typical symptoms of the disease. Perhaps it would be a safe rule to consider all cases of glycosuria as being diabetes mellitus until proved otherwise. Renal glycosuria may also be found in cases of arteriosclerosis and chronic diffuse nephritis, but true diabetes mellitus may never develop. These patients show a remarkably high and prolonged blood glucose curve, probably a retention phenomenon in distinction to the normal curve exhibited by the patients having renal glycosuria of unknown or idiopathic origin.

DR. ALBERT A. HORNOR, Boston: Dr. Paullin told me that he has undertaken some work to attempt to check the influence of water on blood sugar after ingestion of glucose by normals. The influence of proteins in these cases emphasizes the point which Dr. Allen has made so often, that the carbohydrates, proteins and fats must all be considered in the management of cases of diabetes. All three elements of diet are important.

DR. ALLAN EUSTIS, New Orleans: The question of renal glycosuria is a very complicated one and it is only after a careful study of a case that such a diagnosis is justifiable. Croftan showed several years ago that cases of severe intestinal toxemia are often associated with the presence of combined glycuronates in the urine which will reduce alkaline copper solutions. The urine will not turn the plane of polarized light nor will it ferment with yeast, while the

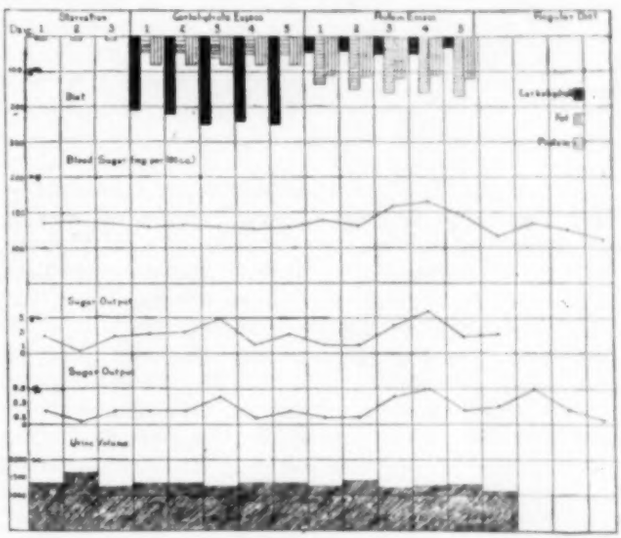

Chart 5.—Blood sugar, urinary sugar and urine volume response to diets with varying amounts of carbohydrate, protein and fat.

blood sugar will be normal. If one judges such a case from the blood sugar and reduction with the urine only as a case of renal glycosuria he will be mistaken. Many of these cases are treated as cases of true diabetes, often with unnecessary inconvenience and hardship to the patient. I see so many of these cases associated with intestinal toxemia which have gone unrecognized for years, that I am forced to the conclusion that the profession does not appreciate the importance of determining the identity of the reducing substance in the urine. In New Orleans, where strong coffee is drunk, it is not infrequent to find urines from patients with deficient liver function which will reduce Fehling's solution.

Inasmuch as caffein is capable of this reducing action, it is probably due to the presence in the urine of this substance.

DR. JAMES E. PAULLIN, Atlanta, Ga.: The reducing substance in this case was shown to be glucose by the copper reduction, fermentation tests and the formation of osazone crystals with phenylhydrazin and the determination of the melting point of these crystals.

3. Benedict, S. R.: J. Biol. Chem. **9**: 57, 1911.
4. Lewis, R. C., and Benedict, S. R.: J. Biol. Chem. **20**: 61, 1915.
5. Lewis, D. S., and Mosenthal, H. O.: Bull. Johns Hopkins Hosp. **27**: 133 (May) 1916.
6. Bailey, C. V.: Studies on Alimentary Hyperglycemia and Glycosuria, Arch. Int. Med. **23**: 455 (April) 1919; Am. J. M. Sc. **157**: 221 (Feb.) 1919.
7. Beard, A. H., and Grave, A. Floyd: Renal Glycosuria, Arch. Int. Med. **21**: 705 (June) 1918.
8. Williams, J. R., and Humphreys: Observations on Tolerance and Rate of Utilization of Glucose in a Series of Individuals Exhibiting Various Degrees of Diabetes Mellitus, Arch. Int. Med. **23**: 559 (May) 1919.

A Medical Dramatist.—A play that has reached its hundredth presentation in Paris, the "C. Q. G. d'Amour," is said by the *Progrès médical* to have been written by Dr. P. Rehm during a little leisure in the operating room of the H. O. E. at Coulommiers, July 18, 1918.

INTRAPLEURAL HYPERTENSION FOR EVACUATING PUS THROUGH BRONCHI

IN SPONTANEOUS PYOPNEUMOTHORAX

ALFRED MEYER, M.D.
NEW YORK
AND
BARNETT P. STIVELMAN, M.D.
BEDFORD HILLS, N. Y.

Medical literature shows much conflict of opinion as to the best procedure in cases of pyopneumothorax in tuberculosis. This conflict applies with special force to cases in which the pulmonary opening still exists, with discharge of the pleural pus by way of the bronchial tree. In the latter case we usually have to deal with an infected cavity and septic symptoms, and the temptation is strong to have a thoracotomy performed, with or without rib resections. But this does not appear rational with constant reinfection going on, although recommended by Finlay,[1] Powell[2] and Lord.[3] Others dissent from this view and prefer the alternatives of periodic aspiration or continuous air-tight drainage (Fowler and Godlee).

There appears to be general agreement, however, that if we had a method of closing the pulmonary fistula and converting the open pyopneumothorax into a closed one it would be a distinct gain. Unfortunately, we are face to face with a double dilemma—there is no method, surgical or otherwise, of dealing with tuberculous pulmonary fistulas, and even if there were, the difficulty of locating them[4] is so great that the proverb of catching a sailor before you hang him to the mast would be an appropriate analogy.

The case reported herewith may hold the germ of an alternative method based on the idea of forcing out the pus from the pleural cavity and through the pulmonary fistula by increasing the pneumothorax, and subsequently introducing various solutions like methylene blue or watery iodin, and forcing them through the same route by means of the increased pressure obtained by the added pneumothorax. We are, of course, not yet ready to report results, as this procedure was begun only a few weeks ago; but as cases of open pyopneumothorax falling under the observation of any single observer are, on the whole, very few, we wished to draw attention to the method in order to insure its wider trial.

REPORT OF CASE

S. G., a man, aged 26, born in the United States, a porter, admitted to the Bedford Sanatorium of the Montefiore Home, Aug. 6, 1919, with irrelevant family and previous personal history, stated that he had been in perfect health until he was discharged from the army in October, 1918, when he caught cold and was confined to bed for six weeks, with moderate chills, fever and night sweats and distressing cough. Subsequent improvement in all symptoms was marked until April 19, 1919, when he had a severe hemoptysis, losing about 16 ounces of blood. Bloody expectoration continued for five days, and he was removed to Bellevue Hospital, April 24, where examination disclosed slight infiltration of the right apex and extensive infiltration with cavity formation in the left lung. A left pneumothorax was induced, May 5, but the patient left the hospital of his own accord, June 3, after having received eight inflations. The roentgen-ray examination before he left disclosed *almost complete collapse of the left lung and absence of adhesions.*

On his admission to the sanatorium in August, physical examination of the chest gave evidence of tuberculous involvement of the right upper lobe, infiltration of the left upper lobe and thickened pleura (?) of the left base. Succussion proved the presence of a hydropneumothorax, as did both fluoroscopy and roentgenograms, with the fluid level shown at the fourth rib. The sputum was positive, and the urine, Wassermann test and tuberculin fixation test negative.

In the next five months the patient rapidly improved. His temperatures remained nearly normal, he lost his cough and expectoration, and he gained twenty-three pounds. The fluoroscope revealed complete absorption of the pneumothorax.

About the middle of January of this year the patient began to complain of distressing pain in the left lower midaxillary region. This was accompanied by a distressing cough and purulent expectoration. A subfebrile temperature was noted in the afternoon, together with tachycardia and absolute anorexia. Physical examination was not conclusive. No splash could be elicited. The left lower chest was markedly dull, with a feeble respiratory murmur; but in view of the clinical symptoms and profuse purulent expectoration, the presence of a spontaneous pyopneumothorax with persistent bronchial communication was considered probable, and that was proved by the subsequent evidence.

Feb. 8, 1920, the white blood count was 15,400, with 70 per cent. polymorphonuclears and 14 per cent. small and 16 per cent. large lymphocytes.

February 9, a roentgenogram showed a definite pocket containing air and fluid, *the pneumothorax being more extensive than when the patient was admitted.* This was proof of a spontaneous pneumothorax, as no air had been introduced during his stay at the sanatorium.

February 12, exploratory puncture yielded 10 c.c. of pus, which was identical with the pus expectorated, and in both the predominating organism was a gram-negative nonhemolytic streptococcus. The pressure after the removal of the 10 c.c. of pus was +1 to +3 cm.[5] of water; but after the introduction of 100 c.c. of air, it rose to +8 to +9. Immediately after the introduction of the air the patient raised nearly the equivalent amount of pus (about 93 c.c.).

The clinical picture did not change for the better in the meantime. The fever ranged between 101 and 102.5, and the cough was very distressing. March 1, 1920, 250 c.c. of air were introduced, the initial pressure being from 0 to +2 cm. of water. The final pressure was 20 mm. of mercury (about 27 cm. of water), the mercurial manometer being used because of the inadequacy of the water manometer for such high pressures. The patient again expectorated about 60 c.c. of pus identical with that aspirated, and the pressure fell to about 1 mm. of mercury (about 1.3 cm. of water). March 15, this procedure was repeated for the third time, and roentgenograms were made before and after inflation. In all, 100 c.c. of air were introduced, the initial pressure being from 0 to +2 cm. of water and the final pressure being +20 mm. of mercury (25 cm. of water), the patient expectorating 93 c.c. of pus.

A roentgenogram taken after the procedure revealed definitely a fluid level reduction of at least 1½ inches compared with one taken immediately before. With the object of getting further proof of the existence of the pulmonary fistula, similar intrapleural hypertension was employed, March 27, for the fourth time, with the modification of injecting also 1 c.c. of a saturated alcoholic solution of methylene blue. Immediately thereafter, 150 c.c. of air were injected, and during the procedure about 150 c.c. of blue sputum were coughed up. The fever chart showed an average reduction of 2 degrees for three days following this purely diagnostic methylene blue injection.

1. Finlay: Allbutt's System, p. 386.
2. Powell: Diseases of the Lungs, Ed. 5, p. 144.
3. Lord: Diseases of the Bronchi, p. 589.
4. We have not tried the method of locating the fistula by introducing liquid petrolatum into the pleura and fluoroscoping for escaping bubbles of air.
5. All manometric readings are those above or below the zero mark; the actual hydrostatic pressure would be double these figures.

At our fifth attempt, April 6, we had an interesting experience. The initial pressure was from 0 to +1. After 100 c.c. of air were introduced, the pressure rose to + 20 mm. of mercury (27 cm. of water). After 300 c.c., the pressure had fallen to from — 0.5 to + 1.5 cm. of water, and after 600 c.c. remained at from — 0.5 to + 1 cm. of water. The low and uniform intrapleural pressure was evidently due to the fact that the air introduced escaped through the fistulous opening. Fifty c.c. of 1 : 10,000 watery iodin solution were injected into the pleural cavity. The patient brought up about 150 c.c. of pus during the operation. The iodin solution did not cause any unusual irritation.

Six days later, at the sixth attempt, no hypertension was obtainable even for a short period, for there was evidently insufficient pus in the pleural cavity to cover the pulmonary opening.

COMMENT

It is our intention to continue this method of expelling the pus, but to follow it at each sitting with injections of iodin of increasing strength, or alternately with methylene blue, in an attempt to close the pulmonary fistula and thus convert the case into a simple pyopneumothorax and ultimately permit a thoracotomy and rib resections, if necessary—this, of course, only if the patient's general condition warrants it. The tolerance of the bronchial tree and trachea for solutions of iodin, 1:1,300, has been demonstrated many times in the last three years in the treatment by irrigation through the bronchoscope of nontuberculous bronchiectatic cavities and pulmonary abscesses. In such a case seen recently by one of us, the patient stood a strength of 1:650. We have begun with a solution nearly fifteen times weaker merely as a matter of caution.

A considerable search of the literature does not disclose any report of what might be called "pneumatic expulsion" of pus from the pleura, nor of the treatment of a tuberculous pulmonary fistula in the way described.

The age of the adhesions in this case (probably from 4 to 5 months) seemed to us to justify using very much higher intrapleural pressures than we had ever employed before in ordinary artificial pneumothorax work, because we had less fear of their giving way with the formation of new pulmonary fistulas. In addition to this, the very presence of the one proved fistula was to a certain extent a safety valve, as was shown by some manometric readings quoted above and some taken right after the discharge of pus through the mouth, the figures falling promptly to the initial low ones.

The location and size of the opening, and hence the posture of the patient, may prove to be a very important element in obtaining pleural hypertension and expulsion of the pleural contents. Our experience with the fifth injection proved this; hence, each patient's posture for the procedure may prove to be different.

If no hypertension is attainable because the pulmonary opening is above the level of the pus, the chest could be filled with sterile water or with sterile salt solution, and hypertension then applied. In fact, this procedure could be employed several times in succession at the same sitting—a species of scrubbing of the pleural cavity—before the final injection of the remedial agent.

The method could also be combined with aspiration, leaving the hypertension as the final step for bathing the pleura and fistula with the remedial agent. Malachite green or other agents might be substituted for the methylene blue and iodin. Malachite green, in particular, has been recommended by laryngologists for its antibacterial and antiinflammatory effect. Only a long period and a wide trial will hold out any hope of a probable answer on the relative value of this method and of the different agents used. For the present, we can report that the maximum temperatures that had ranged for weeks between 102 and 103.8 have now fallen to between 99.6 and 100.4 daily, and the total sputum of 15 or 16 ounces daily has in the past three weeks averaged only 3 ounces. Coincidentally, of course, there has been a considerable improvement in appetite and well-being.

ULCER OF JEJUNUM FOLLOWING GASTROJEJUNOSTOMY *

WALLACE I. TERRY, M.D.
SAN FRANCISCO

During the winter of 1901, while in attendance at the clinic of the late Prof. Theodor Kocher of Bern, it was my good fortune to see him operate on a patient who had a perforating ulcer of the jejunum, following a gastrojejunostomy of the Roux or Y type. Up to that time only six similar cases had been reported, so it excited considerable interest. With the idea in mind that the gastric juice was responsible for these ulcers, I carried out experiments with various types of gastro-enterostomy, but in no case did ulcers of the jejunum develop. Later, in 1903, Watts reported the occurrence of two ulcers of the jejunum, one perforating, in a dog three months after a gastrojejunostomy. Exalto, Wilkie, Soresi and others found secondary ulcers of the jejunum following gastrojejunostomy in animals. Gronnerud of Chicago, in 1917, found ulcers quite frequently when the internal suture was nonabsorbable. In those cases in which absorbable sutures were used, ulcers of the jejunum were only occasionally encountered and were usually minute. The work of Gronnerud, based on some 5,000 experiments, is of great value in throwing light on this rather obscure condition. He concluded that ulcers of the jejunum, following gastro-enterostomy, were caused almost exclusively by nonabsorbable sutures. But this is not the only factor, as some of Gronnerud's, and Hartwell and Hoguet's experiments demonstrate, and as shown also by some clinical experience.

It is my belief that the principal factor in the production of these ulcers is the introduction into the jejunum of non-neutralized acid gastric juice, and that trauma, be it from tight application of clamps, injuries of blood vessels or retained sutures, further lowers the resistance of the jejunum or of the anastomotic opening to the digestive action of the gastric juice. The fact that, in a series of 155 cases which I have collected from the literature, in addition to three cases of my own, only one case of ulcer of the jejunum followed gastrojejunostomy for cancer of the stomach, lends considerable weight to the idea that the gastric secretion is the prime factor. The duodenum has its own succus entericus with bile and pancreatic secretion to act as neutralizing agents, while the jejunum is much less able to protect itself against acid chyme.

* Read before the Section on Surgery, General and Abdominal, at the Seventy-First Annual Session of the American Medical Association, New Orleans, April, 1920.

When we come to investigate the type of operation which was followed by jejunal or gastrojejunal ulcer, we find that out of 136 cases collected by Wright,[1] posterior gastrojejunostomy was done in fifty-four (40 per cent.) while the anterior operation with or without entero-enterostomy was done in seventy-four (54 per cent.). In the remaing eight cases (6 per cent.) posterior gastro-enterostomy with entero-anastomosis was performed. The significance of these figures is apparent, for posterior gastrojejunostomy has undoubtedly been performed much more frequently than the anterior operation, yet fewer cases of jejunal ulcer have occurred following it. The further down the jejunum that the anastomosis with the stomach is made, the greater is the probability of development of jejunal ulcer; hence the greater number after the anterior operation because of the longer loop employed. A posterior gastro-enterostomy with entero-anastomosis, or a Y operation, means deprivation of neutralizing agents to that portion of the jejunum attached to the stomach.

Just what element in the gastric juice is necessary, we are as yet unable to say. None of the reported cases give sufficient data as regards gastric analyses before, during and after the occurrence of jejunal ulcers. In a few cases, hydrochloric acid was almost entirely absent. Whether or not infection is a necessary concomitant is also a debated question. The fact that a considerable portion of the reported cases were marginal, that is, involving both the stomach and jejunum at the point of anastomosis, and the further fact that retained sutures have been found at the anastomosis, lend weight to the idea that the nonabsorbable suture is much to blame.

REPORT OF CASES

The following three cases have not been previously reported:

Case 1 (7464).—Mr. J., aged 32, entered the University of California Hospital, June 4, 1914, with the history of a posterior gastrojejunostomy performed elsewhere three and a half years previously for pyloric obstruction. For twelve years he had had much gastric distress, often relieved by taking food or sodium bicarbonate. Eight years before admission, he had very severe acute abdominal pain which was in all probability due to a perforated ulcer of the duodenum, in view of the later operative findings. Vomiting had been a prominent symptom previous to the gastro-enterostomy. For two years after the operation he had been quite well, but a recurrence of his old symptoms had led to the performance of a second gastrojejunostomy, and he was told that the previous opening had almost entirely closed. The complaint which brought him to the hospital was pain, felt a few centimeters to the left of the umbilicus, and loss of weight and strength. Palpation revealed tenderness over the pain area. The roentgen ray disclosed a six-hour stasis in the jejunum just beyond the anastomosis opening and a closed pylorus. Dr. W. C. Alvarez, who had previously seen the patient, made a diagnosis of probable ulcer of the jejunum. At operation, June 12, after the freeing of many adhesions of the upper abdominal viscera, it was found that we were dealing with an ulcer in the efferent loop of the jejunum about 2 cm. from the anastomosis. The jejunum was firmly attached to the transverse colon at this point, and the ulcer had almost eroded through into the colon. The ulcer was excised, the raw surface on the colon was covered with a tag of omentum, and the open area of jejunum was made a part of the gastro-enterostomy by slightly enlarging the opening into the stomach. The internal suture was continuous silk, and the external was linen.

The patient remained fairly well for two months, when he had an attack of pain in the left side of the abdomen, followed in twelve days by hematemesis and the passage of bloody stools. Five months later he reentered the hospital with much the same complaint as before: epigastric distress, sour eructations and nausea, with occasional attacks of vomiting. Pain was often relieved by soda or food. Analysis of the stomach contents after a test meal revealed free hydrochloric acid 55, total acid 75. After the usual examinations, including the roentgen ray, a diagnosis of ulcer of the jejunum was made. At operation, Feb. 3, 1915, another ulcer of the jejunum was found in the afferent loop close to the stomach. This portion of the jejunum was excised and the proximal end implanted into the efferent loop, thus making a Y anastomosis. It was further found that the ulcer had perforated the wall of the jejunum posteriorly, the base being formed by the pancreas. The patient improved somewhat following the operation, but fourteen months later it was reported that he had died from intestinal hemorrhage. No necropsy was performed.

Case 2 (8216).—Mr. O., aged 43, entered the University of California Hospital, Nov. 15, 1914, complaining of pain in the right lower abdomen and vomiting blood. A gastrojejunostomy had been performed a year previously at another hospital, there being found an old healed ulcer of the stomach near the pylorus with a recent ulcer in the second portion of the duodenum. The internal suture was chromic catgut and the external was linen, both being continuous. The pylorus was plicated. The patient remained well for only two months after the gastro-enterostomy. With the return of pain there was vomiting, and at one time a considerable amount of blood was vomited and also passed by rectum. The patient lost 30 pounds in weight. Examination revealed a tender mass 4 cm. to the left of the umbilicus; a test meal showed free hydrochloric acid 45, total acid 60; the Wassermann reaction was negative, and there was occult blood in the stools. A diagnosis of probable jejunal ulcer was made. At operation, November 16, a marginal ulcer was found nearly encircling the anastomosis; the lumen was thereby much narrowed and would just admit a finger tip. The pylorus was patent. It was felt that excision of those portions of the stomach and jejunum involved in the ulcer was unwise in view of the patient's poor physical condition, so a gastroduodenostomy was performed after mobilizing the third portion of the duodenum. The internal suture was made with chromic catgut and the external with linen. Recovery was without incident and at the last report the patient was all right.

Case 3.—Miss A., aged 52, was referred to me in 1918 by Dr. Eliot Alden of Los Angeles, with a history of probable ulcer of the stomach extending back to the age of 25. In 1911, a posterior gastrojejunostomy was performed. Nine months later, pain began in the left colonic region, and in 1912, she had two hemorrhages, vomited blood and had tarry stools. In 1913, a pylorectomy was performed, but during the next four years there were attacks of pain to the left of the umbilicus and four more hemorrhages. A gastric analysis in 1915 revealed only slight acidity. Roentgen-ray examination, however, disclosed an unusual delay in the passage of barium in the jejunum just beyond the gastro-enterostomy opening. In view of the history of persistent pain to the left of the umbilicus, the frequent hemorrhages and the roentgen-ray findings, a diagnosis of jejunal ulcer was made and operation advised. This was carried out, Jan. 25, 1918. A gastrojejunal ulcer was found on the anterior wall with considerable distortion and contraction of the jejunum at that point. Excision of the entire ulcer and reestablishment of the anastomosis with tanned catgut sutures were carried out. Three months later the patient was operated on for acute gangrenous appendicitis. Two years later she had pain and tenderness in the epigastrium, which were diagnosed as recurrent ulcer, but the symptoms subsided promptly on an

1. Wright (Brit. J. Surg. **6**: 390, 1919) gives a list of nearly all reported cases. Other cases are recorded in Percy: Surg., Gynec. & Obst. **10**: 316, 1910. Carman, R. D., and Balfour, D. C.: Gastrojejunal Ulcers, Their Roentgenologic and Surgical Aspects, J. A. M. A. **65**: 227 (July 17) 1915. Urrutia: Siglo medico **64**: 470 (June 30) 1917; abstr. J. A. M. A. **69**: 678 (Aug. 25) 1917. Coffey: Ann. Surg. **71**: 303, 1920.

ulcer diet. Whether she will again have jejunal ulcer is for the future to tell.

In none of the foregoing cases were any retained sutures found, although search was made for them. To me, the striking feature in the symptoms presented by these three cases and by many others from the literature was the pain and tenderness to the left of the umbilicus. The beginning of the jejunum is just to the left of the spine and at the level of the second lumbar vertebra, while the umbilicus is opposite the third or fourth lumbar vertebra; so I am inclined to believe that the tender area is similar in type to the Head zones. Thus the Mayo-Robson point is not directly over the gallbladder, nor is the McBurney point directly over the appendix, but the tenderness is referred to those points. May it not be that the pain from an ulcer in the upper part of the jejunum is referred to a point from 2 to 4 cm. to the left of the umbilicus?

The value of careful roentgen-ray studies in the diagnosis of these ulcers has been emphasized by a number of observers. Perforation of the jejunal ulcers either into the peritoneal cavity or into the transverse colon has been reported in some fifty-five cases, most of them previous to 1910, so that it is fair to presume that earlier diagnoses have been made in the later cases. In many of the reported cases of acute perforation, there was a history of chronic antecedent pain or discomfort.

CONCLUSIONS

As a result of my study of jejunal and gastrojejunal ulcers following gastro-enterostomy, the following conclusions are offered:

1. The exact etiology still remains in doubt; in all probability the principal factor is the diversion of acid chyme into a part of the intestine, which has less neutralizing power than the duodenum. The other factors of prime importance are trauma, especially from retained sutures or anastomosis buttons, and infection.

2. In view of the very few reported cases of ulcer of the duodenum following pyloroplasty or gastroduodenostomy,[2] it would seem wise to employ those operations in suitable cases.

3. Gastro-enterostomy should be performed with much care; clamps, if used, should be adjusted without traumatism of the viscera; only absorbable sutures should be used for the anastomosis.

4. Patients subjected to gastro-enterostomy should be instructed as to a suitable dietary, which should be continued for at least a year. In addition, antacids should be given if the gastric analyses seem to warrant their employment.

5. Patients should be urged to seek competent advice when pain returns.

240 Stockton Street.

ABSTRACT OF DISCUSSION

DR. J. SHELTON HORSLEY, Richmond, Va.: Jejunal ulcer following gastro-enterostomy is found in a small, but definite, percentage of cases. It is, of course, caused by the gastro-enterostomy. Without this operation it is almost never found. Undoubtedly, unusual trauma and the use of unabsorbable sutures favor its occurrence, but when catgut is used and no clamps are employed jejunal ulcer sometimes occurs. In large clinics it is estimated that it follows gastro-enterostomy in about 4 per cent. of cases. It seems reasonable to assume, therefore, that something in the altered physiology of the stomach is responsible for the jejunal ulcer. When a hollow viscus has always had alkaline contents and the reaction is changed to strongly acid, symptoms are produced. For every jejunal ulcer there are probably many cases of jejunal hyperemia which also produce symptoms. In one of my cases in which a gastro-enterostomy was performed, without clamps, a perforating jejunal ulcer developed on the mesenteric border opposite the stoma. The best results follow gastro-enterostomy when done for complete pyloric stenosis, and the alkalinity of the duodenal contents cannot be lowered by the passage of acid contents through the pylorus. So the unreduced alkalinity of the duodenal contents can better protect the jejunal mucosa at the gastro-enterostomy opening than if this alkalinity had been reduced by the passage of the gastric juice through the pylorus. It is common experience to get the best result in those cases in which there is cicatricial pyloric or duodenal closure; in this type gastro-enterostomy should be done. In other types pyloroplasty will cure the ulcer and in a few months the stomach will appear to be practically normal even on roentgen-ray examination.

DR. WILLIAM J. MAYO, Rochester, Minn.: In our experience gastrojejunal ulcer rarely occurs if fine catgut instead of silk or nonabsorbable sutures are used in performing a gastro-enterostomy. This has also been Moynihan's experience. Twelve years ago I reported seven cases of these so-called marginal ulcers. I have seen very few true jejunal ulcers, but I have no doubt that they occur. They do occur experimentally in animals. The ulcers I have seen have almost always been in the suture line. In two cases, nonabsorbable sutures worked through the abdominal wall and were removed from superficial abscesses. A very narrow layer of tissue should be turned in, and one should be very careful about the blood supply. It has been my misfortune to reoperate in some cases of gastrojejunal ulcer in which the ulcer had been excised. We now cut off the gastrojejunostomy, close the stomach and jejunum, and make a pyloroplasty after the method of Finney. We have seen gastrojejunal ulcer only three times among many hundred gastro-enterostomies in which catgut was used. Carman has shown that a roentgen-ray diagnosis of gastrojejunal ulcer can be made in more than 90 per cent. of the cases. Many of the patients coming back after gastro-enterostomy, with supposed relapses of the original ulcer, prove on exploration to have gastrojejunal ulcer with the original ulcer healed.

DR. A. J. OCHSNER, Chicago: The reason Dr. Mayo does not get jejunal ulcers following his gastro-enterostomies is not that he uses a certain kind of suture, but that he makes his gastrojejunal opening at the lowest point of the stomach so that there is no accumulation of acid gastric juice. In all the cases in which I have reoperated for jejunal ulcer there was a sacculation of the stomach. I have used silk in all my cases and my proportion of jejunal ulcer corresponds to Dr. Mayo's because I followed the principles he laid down twenty-five years ago.

DR. A. A. STRAUSS, Chicago: When a gastrojejunal ulcer occurs, the surgeon has really produced an experimental ulcer. The etiologic factors which produced the original ulcer are still present. Producing the trauma to the bowel and stomach, using silk sutures and cutting off the blood supply by inverting the edges of the bowel and stomach too much, furnish the ideal conditions for producing an ulcer experimentally, especially when the etiologic factor, the infection, is still present in the body. Experimentally, we have found that if an ulcer is produced, and a gastro-enterostomy is performed later, during the very active stage of the ulcer, quite frequently a gastrojejunal ulcer is found, when silk is used. On the other hand, when the gastro-enterostomy is performed later, when the ulcer is practically healed, we hardly ever find a gastrojejunal ulcer. No matter whether we believe that a certain particular type of streptococcus produces the infection, the important clinical fact is that every excised ulcer contains a large number of organisms. The trauma of gastro-enterostomy plus the original infection produces the gastrojejunal ulcer. I doubt whether the acid

2. Van Roojen: Arch. f. klin. Chir. **91**: 381, 1910.

conditions in the stomach play any rôle whatever in producing such an ulcer.

DR. W. I. TERRY, San Francisco: The acid chyme is the prime causative factor. Dr. Mayo brought that out in a different way. His therapy is to do a pyloroplasty. This means that he restores the acid chyme to the duodenum instead of allowing it to go back into the jejunum. That seems to me to be the logical treatment for these cases. The matter of roentgen-ray diagnosis is certainly very important.

AN IMPROVED TECHNIC FOR THE REMOVAL OF THE GALL-BLADDER

BASED ON AN ANATOMIC STUDY *

MOSES BEHREND, M.D.
PHILADELPHIA

The poor results reported by surgeons following cholecystectomy, especially in those cases in which the common duct has been the seat of injury and even destruction, can be readily explained by a study of the anatomic peculiarities in the formation of the ducts and blood vessels around the foramen of Winslow. Many of these peculiarities were illustrated in a paper published last year.[1] Further study along similar lines has revealed additional variations which are most important to remember in the performance of the operation of cholecystectomy (Figs. 11 to 25).

The operation is almost invariably performed by many surgeons within the gastrohepatic omentum by the so-called "closed" method. It is therefore not

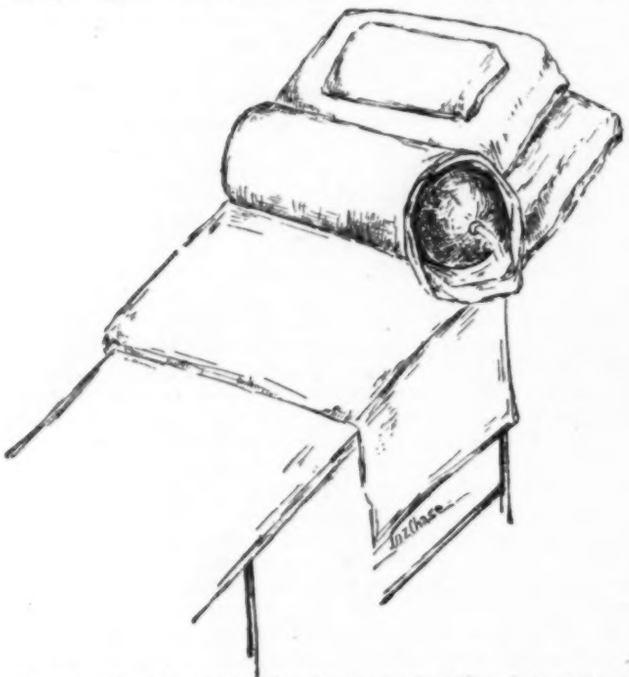

Fig. 1.—Operating table, showing pneumatic pad and arrangement of pillows.

suprising to see many cases of common duct trouble reported after a cholecystectomy. It seems to me that no one in the light of present information ought to perform this operation without a thorough knowledge of the anatomy of the parts in the region of the foramen of Winslow. Such experience can best be obtained in the anatomic laboratory where it is impressed on one that the proper way to perform the

Fig 2.—Patient in position for gallbladder operation: gallbladder pad at border of ribs; straight or slightly oblique incision used at border of rectus muscle.

operation of cholecystectomy is by the "open" method, to be described in the text and by illustration. It is not claimed for this operation that it is new or original; but the fact remains that little cognizance of the proper method of the removal of the gallbladder has been taken.

THE OPEN METHOD

It is important that the patient be in the proper position for this operation. An air cushion which, when inflated, has the contour of a sand bag is placed at the border of the ribs. We use the air cushion in preference to the nonresisting bag because patients complain less of backache following the operation (Figs. 1 and 2). It has been observed that some operators perform this operation without the pad. We find that this prolongs the operation unnecessarily. An oblique incision is made in the epigastric region to the right of the median line. The handle of the knife is used to separate the fibers of the rectus muscle; the posterior sheath and the peritoneum are incised. A pair of Deaver's retractors raise the abdominal wall opposite the operator, and two or three large pads are placed over the stomach and intestine (Fig. 3). The position of the retractors is then changed so that they rest on the sponges, thereby pulling the stomach and intestine out of the way and making taut the gastrohepatic and gastrocolic omenta. Simultaneously the left hand grasps the liver and gallbladder, making traction on the gastrohepatic and gastrocolic omenta in the opposite direction (Fig. 5). The right free border of the gastrohepatic omentum is then opened (Fig. 6), and the ducts and blood vessels are exposed to view.

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* Research work done at Daniel Baugh Institute of Anatomy, Jefferson Medical College; clinical work, at Jewish and Mount Sinai hospitals.

* Read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventy-First Annual Session of the American Medical Association, New Orleans, April, 1920.

1. Behrend, Moses: The Failure of Surgery on the Extrahepatic Biliary Passages, J. A. M. A. **73**: 892 (Sept. 20) 1919.

The cystic duct is always separated from its bed before its ligation; the insertion of the cystic duct into the common duct is noted, and it is ligated close to the common duct, after it is caught with the cystic duct forceps. The proper curve of these forceps is of the greatest importance in expediting the completion of the operation. The cystic artery is always ligated close to the gallbladder (Figs. 7 and 8). Any variations from the normal can be at once detected by this open method of operating. As soon as the cystic duct is severed, the gallbladder is stripped from its bed. The bed is then sutured, and a small caliber drainage tube is always placed at the site of operation (Figs. 9 and 10). The tube is left two or three days for the purpose of taking care of any leakage that may occur from the slipping of a ligature.

Fig. 3.—Retractors raise abdominal wall, revealing liver, gallbladder, stomach and colon.

Fig. 4.—Pads in position; position of retractors changed to include the pads; stomach and portion of intestine pulled away from field of operation.

The gallbladder is generally removed from below upward. It really makes very little difference whether this is done from below upward or from above downward as long as we expose the cystic duct and the cystic artery and note their course. Up to 1902, the Mayos and Moynihan used the latter method; but after this date they advised that the operation be performed from below upward. Seelig [2] still advocates this method. The most logical method, however, would be from below upward, on account of attacking the blood supply first. It also simplifies the operation to remove the gallbladder from below upward because with the left hand tension is made on the gallbladder, bringing into view the right free border of the gastrohepatic omentum; and when this is opened, the cystic duct is readily visualized. The importance of using the left hand properly must be impressed on all, as this contributes greatly to the speedy removal of the gallbladder.

The method of double ligation of the cystic duct, as recommended by Andrews,[3] is unnecessary if we observe the precaution of opening the gastrohepatic omentum.

Although the credit of the first operation performed on the gallbladder belongs to Bobbs (1867), the first cholecystectomy was performed by Langenbuch [4] (1882). Petit, in 1743, operated on the gallbladder; he was followed by Herlin, L'Anglos and Duchainois. They attempted cholecystectomy but never completed the operation. They experimented on animals, tying the cystic duct and removing the gallbladder. Thiem,[5] in 1889, and Kummel,[6] in 1897, warned the profession about isolating the cystic duct before its ligation; but these men and many others that followed have not been specific enough as to the details of their operation. Praeger [7] palpated the cystic duct and removed it, a procedure not sufficient in itself, because one must see what one is doing to prevent complications.

A knowledge of the anatomic relations of the cystic duct is important in cases with a duodenal insertion, particularly those in which the common duct is hardly divisible as a distinct entity on account of the closeness of the insertion of the cystic duct into the duodenum (Fig. 11). These are cases that give symptoms of a pseudo gallbladder if the cystic duct is not ligated close to the common duct. Weeks,[8] contrary to our rule, tied the cystic duct as high as possible. It is especially important to visualize the cystic duct where it inserts on the ventral and inner aspect of the common duct because in these cases the cystic duct is in close relation to the hepatic artery (Fig. 15). It is also important to visualize the cystic duct where it is short and swollen on account of the edema from the surrounding inflammation. It is easy in these cases, if one does not perform the open method of operation, to include the common duct in the ligation. This we have demonstrated at the operating table while performing a cholecystectomy. Only recently several patients were operated on who illustrated various types of pathology, emphasizing the

Fig. 5.—Left hand grasps gallbladder and liver, and with retractors the gastrohepatic and gastrocolic omenta are made tense. Gloved hand not shown above.

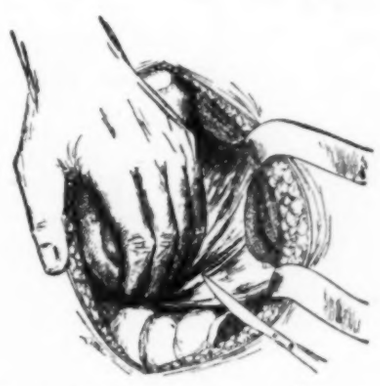

Fig. 6.—Right free border of gastrohepatic omentum opened. Note especially position of left hand, retractors and incision.

Fig. 7.—"Open" method of operation: Ducts and blood vessels revealed, cystic duct forceps in position. Note exact curve of forceps.

2. Seelig, M. G.: Surg. Gynec. & Obst. **25**: 45-54 (July) 1917.
3. Andrews, E. W.: Surg. Clin., Chicago **3**: 237 (April) 1919.
4. Langenbuch, C.: Berl. klin. Wchnschr. No. 48, pp. 725-727 (Nov. 27) 1882.
5. Thiem, C.: Verhandl. d. Deutsch. Gesellsch. f. Chir. **18**: 92, 1889.
6. Kummel: Deutsch. med. Wchnschr. **23**: 353, 578, 592, 1897.
7. Praeger, E. A.: Montreal M. J. **18**: 881-885, 1889-1890.
8. Weeks: Tr. Am. Surg. Assn. Philadelpiha **13**: 347-350, 1895.

importance of the open method. The common duct could have been easily ligated on account of the edema mentioned above making the cystic duct so short as to resemble the common duct; in another case the ampulla of the gallbladder was adherent to the common duct; and until separated from the latter and until the right free border of the gastrohepatic omentum was opened, it was impossible to distinguish the cystic duct from the common duct. In still another case the gallbladder was so large and the ampulla extended over such a wide area that the structures around the foramen of Winslow were hidden from view. I could cite many more cases to illustrate this point.

The hepatic artery must be avoided because our experiments on animals have shown that ligation of this important vessel will result in death.

The changes occurring in the liver resemble those of acute yellow atrophy. Mention is simply made here of this fact because many obscure deaths follow a supposedly fine technical operation. One often hears a report of a case of cholecystectomy in which the patient should not have died, but for some unexplainable reason does so. After ligation of the hepatic artery the patient may do well for a week, when gradually there will be signs of inanition, followed by gradual loss of strength, and finally death. Another communication will be made on this subject

Fig. 8.—Gallbladder removed; cystic duct ligated close to common duct; cystic artery ligated close to gallbladder.

Fig. 9.—Gallbladder bed brought together with continuous mattress suture.

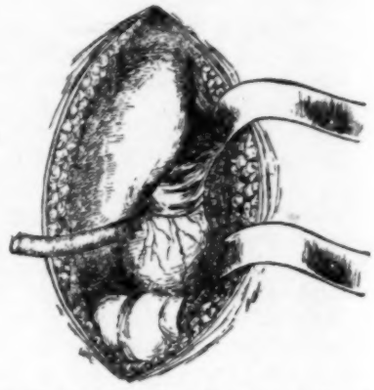

Fig. 10.—Rubber tube placed near site of operation.

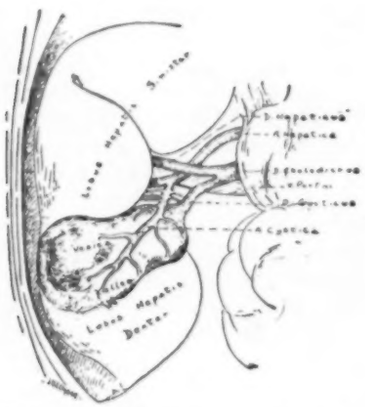

Fig. 11.—A remarkable cystic artery; its size and its numerous branches should be noted.

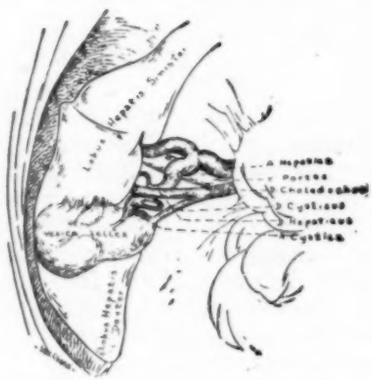

Fig. 12.—Great caliber of cystic artery.

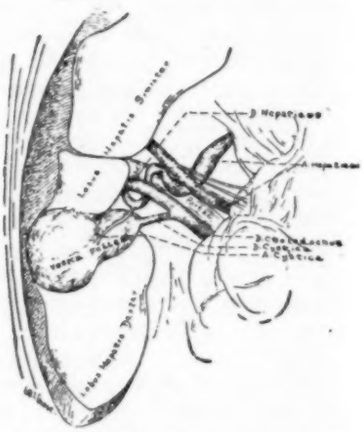

Fig. 13.—Double hepatic artery, one in close relation to the cystic duct.

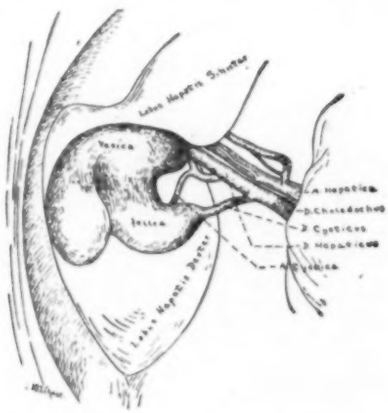

Fig. 14.—Accessory hepatic arteries.

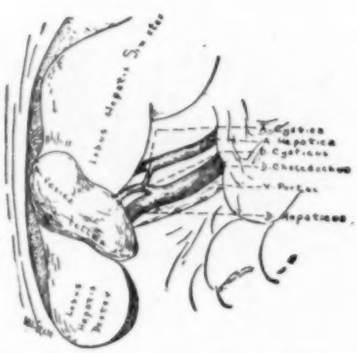

Fig. 15.—Ventral insertion of cystic duct.

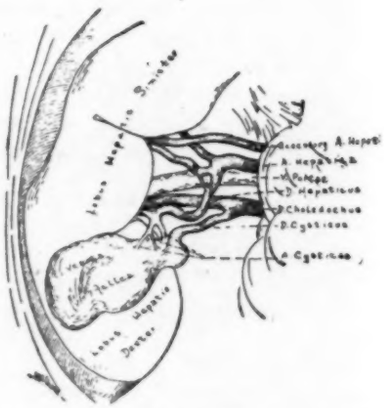

Fig. 16.—Duodenal insertion of the cystic duct; accessory hepatic and cystic arteries.

after the completion of the experiments. Suffice it to say here that this is another plea for the open operation.

Recently we encountered at operation a hepatic artery which was in close relation to the cystic duct. It curved over the hepatic duct, and dipped down under the hepatic duct to enter the liver. The cystic artery was insignificant (Figs. 13 and 16). When operation is performed within the omentum in cases of this character, there is often severe hemorrhage because the hemostat does not completely compress the entire circumference of the vessel. Then, on account of one's haste in attempting to secure hemostasis, important structures are destroyed.

CONCLUSION

It may be stated that the operation of cholecystectomy has lost all of its barriers to a successful result if we perform this operation strictly along anatomic lines. The convalescence of these patients is far superior to those of the old operation of cholecystostomy; however, I would admonish those who are not familiar with the points as outlined above to perform cholecystostomies. The complications will be less and the mortality will be greatly reduced.[9]

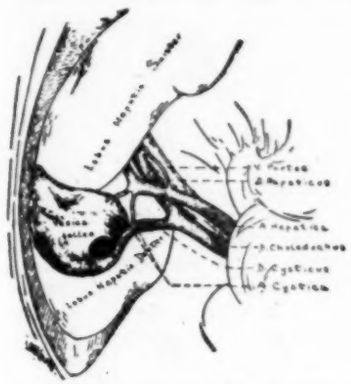

Fig. 17.—Accessory cystic arteries. Note artery to the hepatic duct. Lymph gland shown near insertion of cystic duct, enlargement of which may cause obstruction.

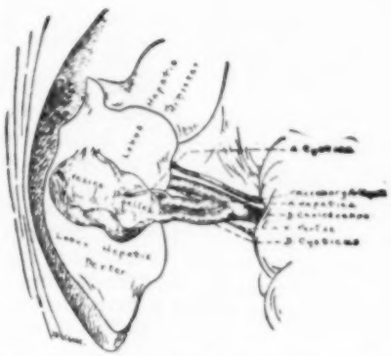

Fig. 18.—Accessory hepatic arteries, the larger of which runs parallel to the cystic duct.

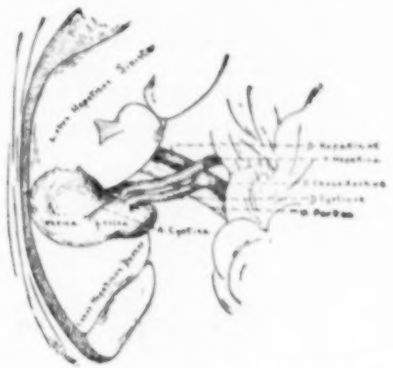

Fig. 19.—Hepatic artery running parallel to the cystic duct: a dangerous type at operation.

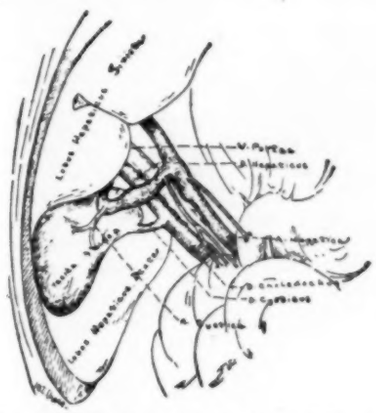

Fig. 20.—Hepatic artery in close relation to the cystic duct; accessory branches to the stomach and duodenum.

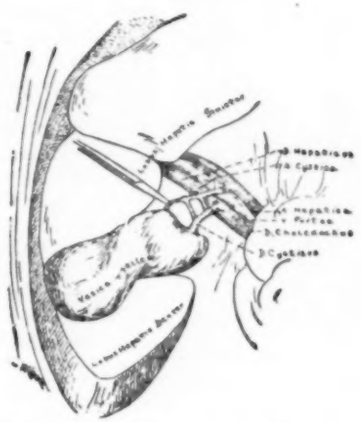

Fig. 21.—Accessory cystic arteries.

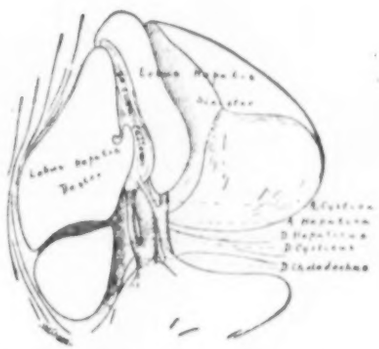

Fig. 22.—Peculiar conformation of gallbladder and ducts in their vertical position.

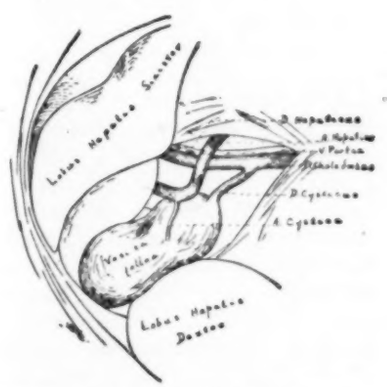

Fig. 23.—The hepatic artery courses over the hepatic duct, and it is in close relation to the cystic duct and the gallbladder.

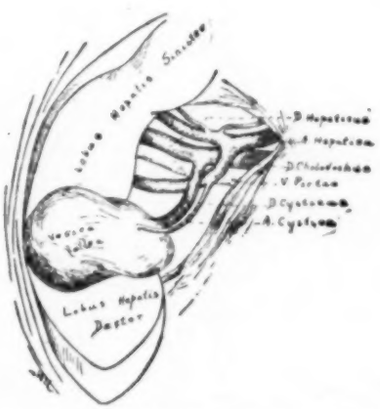

Fig. 24.—A caudal cystic artery: Note the size of the hepatic artery and its relation to the common duct.

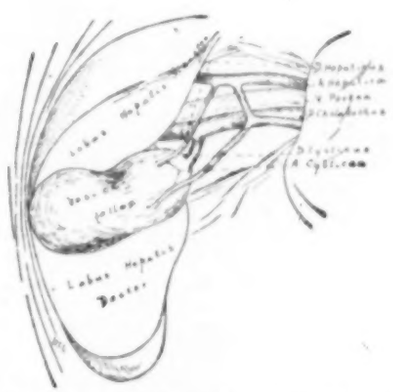

Fig. 25.—Case illustrating a caudal and cephalic cystic artery.

9. In addition to the references already given, the following will be found of interest:
Judd, E. S.: Surgery of the Gallbladder and the Biliary Ducts, J. A. M. A. **71**: 79 (July 13) 1918.
Kleiber, A.: Greifswald, 1892.

ABSTRACT OF DISCUSSION

Dr. Alfred C. Wood, Philadelphia: Every operation should be based on anatomic and physiologic considerations. The importance of accuracy in surgical work needs no argument, and in this particular Dr. Behrend's operation is a definite step in advance. Ligating structures *en masse* should be avoided, except when it is absolutely unavoidable. I wish to commend particularly Dr. Behrend's careful description of the exact manner in which the patient should be placed on the operating table. The final result in these cases is usually most satisfactory. A clean cholecystectomy is followed by a very rapid convalescence and a very high percentage of permanent cures.

Dr. J. B. Haeberlin, Chicago: The crucial point in this operation is good exposure. In very fat individuals the best incision is the Bevan incision. The cystic duct may be ligated and cut at any point that is normal. If it is normal it can be tied one-half inch or 1 inch from its junction with the hepatic duct. It is important not to tie the hepatic duct. At times the gallbladder has been dilated frequently and collapsed; It is large and sacklike, and close to where the cystic duct comes off is an ear formation. In dissecting from above downward bring traction on this pouch or ear formation so that the cystic duct can be reached easily. In regard to the treatment of the pain after the gallbladder is taken out: Richter of Chicago devised a method in which the peritoneum is laid down, not sutured tightly, to allow space underneath and the peritoneum grows to the denuded surface. Closing the wound by primary union whenever possible is the ideal method.

Dr. M. J. Seifert, Chicago: The essayist advised severing the gallbladder as near to its origin as possible. If a cystic stump is left long, it will often develop and take the place of the gallbladder and subsequently gallstones may be found in it.

Dr. John J. Gilbride, Philadelphia: Most of the accidents encountered in surgery, whether of the biliary passages or anywhere else, are frequently caused by poor exposure of the parts involved. In an ordinary, simple, case of cholecystectomy one would not have any difficulty, but in some long standing cases, where the right upper abdomen is a pathologic laboratory one cannot be too careful. We are concerned not only with primary recovery, but permanent cure.

Dr. E. P. Quain, Bismarck, N. D.: For a number of years I have made the transverse incision for practically all biliary surgery. It causes less permanent anatomic damage than any other incision. It is anatomically correct. It leaves an almost invisible scar. The longitudinal incision destroys the intercostal nerves. This aids in the formation of hernia and the peritoneum is more likely to invite permanent adhesions than is a normally innervated peritoneum. The transverse incision does sever the rectus muscle transversely, but this is of no consequence; the cut ends of the muscle are easily reapproximated, and even when they are not sutured, they generally come together from a slight overlap of the aponeurosis and from a physiologic relaxation following trauma. The exposure gained by this incision is excellent, the incision being parallel with the common duct and lying over the pylorus. The appendix has been removed by me through the same incision in 30 per cent. of the transverse incisions made for biliary disease. Postoperative hernia has been conspicuous by its absence in more than 600 cases. Another point of importance: the patients suffer less postoperative pain and distress after a transverse than after a longitudinal incision. This is no doubt due to the fact that fewer intercostal nerves have been traumatized in the former than in the latter.

Dr. H. M. Richter, Chicago: The multiplicity of anomalies met with by Dr. Behrend in 167 sections suggests that they are of little importance or our accidents would be far more numerous. That the displacement of the hepatic artery is not frequently followed by its ligation or section is obvious from the absence of necropsy findings. The ligation of the cystic duct need not be close to the common duct, the literature to the contrary dealing mainly with the cases in which stones or pieces of gallbladder have been left behind. Enlargement of the cystic duct as part of the general enlargement of the duct system is of no importance. Its mucous membrane is analogous to that of the ducts and not to that of the gallbladder. Neither the cystic duct stump nor the raw surface of the liver should be covered by peritoneum, first, because if infected, the peritoneum will better care for it than the retroperitoneal tissues; second, because it is unnecessary to cover the raw surface, and when the attempt is made the peritoneum is lifted from the raw surface leaving a triangular space behind it. The quilting procedure described was attractive, but the gallbladder occupies a depression, and when sutured the little flaps of peritoneum do not lie back against the liver. The adhesions following cholecystectomy are due more to the drainage material commonly used than to the raw surface left exposed.

Dr. Moses Behrend, Philadelphia: Dr. Wood brought up an important point, that the cystic duct and artery must not be ligated *en masse*. Many good operators do this. It is a mistake. No matter how many kinds of incisions you have, if you follow out this technic and open up the gastrohepatic omentum you will never get into trouble. This operation can be done so expeditiously that it takes practically no time, from the first incision to completion of the operation. It would be much better for those who are not versed in the anatomy of this region to do a cholecystostomy instead of a cholecystectomy, as it would lessen the frequency of common duct obstruction. Drainage is necessary. Why subject a patient to a second operation if you can prevent this by putting in a small drainage tube for two or three days? The operation is done from below upward. If you do the operation from above downward you get the main bleeding from the liver and it is annoying. It will prolong the operation unnnecessarily by attempting to eliminate that bleeding. It is not necessary to cover the stumps of the cystic artery and duct. The only reason the liver is sutured is to get the peritoneum in apposition to prevent adhesions. I take issue with Dr. Richter that these anomalies are by no means important. They are of tremendous importance. You have met with cases in which the hepatic or common duct has been destroyed. If these variations are borne in mind, injury to the common and hepatic duct can be prevented. Accidents are due to the fact that more of these anomalies are not borne in mind when the operation is done.

STUDY OF NUTRITION AND MENTAL DEVELOPMENT IN CHILDHOOD

PRELIMINARY REPORT OF WORK DONE BY THE BOARD OF EDUCATION IN THE PUBLIC SCHOOLS OF CHICAGO

KATHARINE B. RICH, M.D.

Staff Physician, Norwegian-American Hospital, Chicago; Visiting Physician, St. Francis Hospital, Evanston, Ill.; Examining Physician and Head of Nutritional Work, Chicago Public Schools

EVANSTON, ILL.

The increasing cost of living, sending more and more children aged 14 into the ranks of the workers, caused the Employment Certificate Bureau of the Chicago Public Schools, to which the children must apply for working certificates, to make the startling discovery that:

1. Fifty-three per cent. of the children of 14 applying for employment certificates were from 7 to 21 per cent. below the average child of that age.

2. These children, when they were employed, could not carry their normal amount of work.

3. Because of this they lost their jobs, became discouraged and gravitated into becoming rolling stones, thus easily falling a prey to vicious and criminal companions.

All of these children were undernourished. Was this the cause and, if so, was it the only cause of their failures?

To determine this, the board of education, through the special interest of Dr. Sadie Bay Adair, one of its members, resolved to carry out a number of experiments through the employment certificate bureau to ascertain the effect that direct nutritional work would have on preindustrial children in giving them the requisite bodily fitness for the labor they must perform.

The program, as devised, included rest, proper food and direct instruction on health and nutrition so that the children might intelligently cooperate. The question immediately arose as to the best methods. Previously, nutritional methods used with undernourished children were based chiefly on the correct weight for the height, assuming that cases of underheight came strictly under the range of medical practice or were a matter of nationality. The requirements of the employment certificate bureau, however, were such that the work of the board of education had to be based not only on the weight for age but also on the weight and height for age. To meet the standard, the child of 14, in order to obtain a working certificate (with a few exceptions), must measure 57⅕ inches in height and weigh 80 pounds.

The work was begun about eight months ago in the public schools in the face of many obstacles. The attitude of the parents and the apathy of the children was no small factor in the way. Questions of cost arose, and objections as to real benefits that would be obtained sprung up in the minds of those who had to bear the financial burden of the undertaking; for supplies had to be procured; cots and blankets for rest periods had to be purchased; milk had to be obtained; help had to be obtained, and the school proposition was doubly difficult because the help and the teaching had to be given first to the children. Until parents understood the full significance of the work, they would not cooperate. To become heartily in favor they must see some actual results and realize the *wage* value of the child's gain; for in the beginning the child is offered something he does not want, and the parents must be made to see the economic worth of the work to their own pocketbooks.

For this reason, five public schools in both foreign and native localities were selected for the experimental work. Some interesting and startling facts have been learned with regard to the comparative value of native and foreign diets. This will be gone into more fully in our later statistical report of the year's work.

Two classes were first established. These slowly increased to twelve as interest grew and the possibilities began to develop. Twenty children formed a class. The number grew from forty to 220. Five rooms in one "open-window" school have been treated as nutrition units. These children, because of their tendency, have had milk, rest periods on cots, noonday lunches and graduated physical exercises under a director. In another school the children have been given milk but no rest periods; in another, neither milk nor rest periods: simply instruction to be carried out at home. Two classes in closed (regular) rooms have been given milk and no school rest periods. All these methods have been used in an endeavor to find out the method that will give the best average results.

One child sent to the clinic by the public employment bureau was 2 inches underheight and 10 pounds underweight. In four months he has gained 2⅕ inches in height and weighs 84 pounds. There are a number who have made equal gains. One "open-window" room treated as a unit gained not only the normal weight for a definite period, but 64 per cent. over. Some children have gained 3½ pounds a week.

One of the interesting points this work has brought out is that underweight previously was thought to result largely from bodily defects—diseased tonsils and teeth, adenoids, flatfoot, etc.—and hence was strictly a medical question. In this work, however, we have found that as the children gain in weight they appreciably gain in height without any medical care whatever. Is this because metabolism is bettered, or can the preponderating factor be determined?

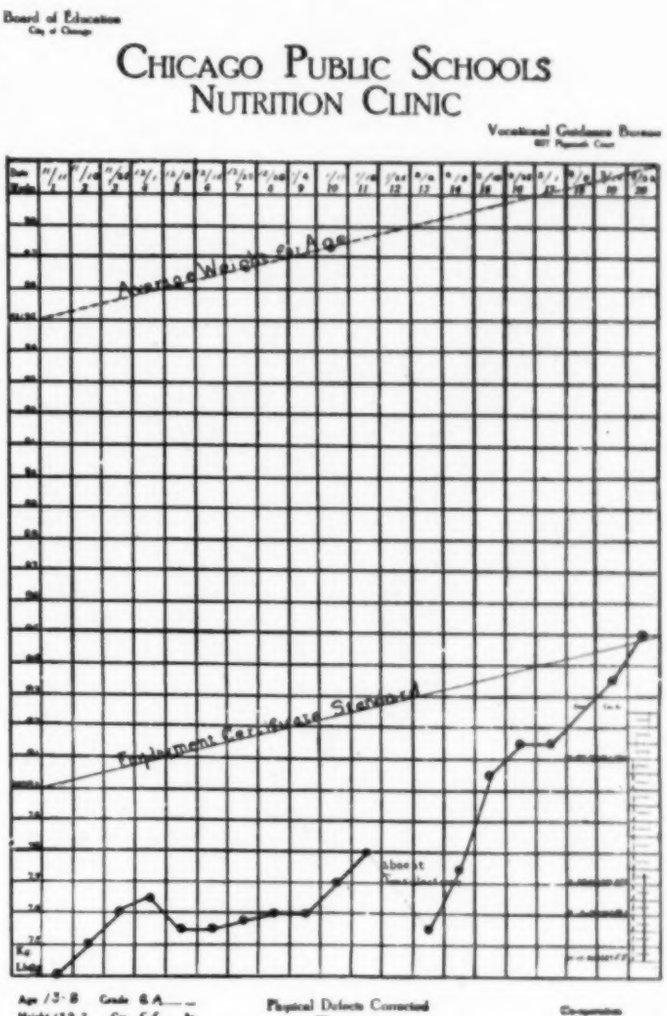

Chart used in nutritional class work in Chicago public schools, giving complete record of each child. Line of average weight for age corresponds with dash line on the "thermometer" at lower right of chart. Solid line at bottom indicates weekly gains and corresponds with heavy line on "thermometer," indicating gain in height.

Another point is that in the prevocational period the problem is better handled in the public schools because of the background of authority. Instructions by the physician and nutritional workers are more likely to be followed, and the parents soon learn to recognize both the physical and the economic value of the work. The younger children are more successfully handled in dispensaries or children's clinics where the mothers bring them because they recognize that they need help. In

this way the parents' cooperation in any necessary procedure is ready and willing.

It is to the child's best interest not to go to work, but to continue its schooling. Undernourishment hinders its best mental effort. The economic advantage from this point gained cannot be urged too strongly.

The procedure so far tried out has three features:

1. A chart has been prepared to meet the needs of both the public schools and the employment certificate bureau. This is reproduced in another column. It has been formulated in such a way that comparative gains both of height and weight are seen at a glance. We believe that this is a distinct advance over methods previously used.

2. Postals are sent to the parents each week letting them know the loss or gain in weight. The interest this awakens and the friendly rivalry between mothers is shown by the fact that if the cards are not received they are promptly asked for.

3. A certificate of graduation (filling the requirements of the employment certificate bureau) is given each child. This is signed by the physician in charge, the nutrititional worker and the principal of the school. It is presented with the other papers (birth certificate, etc.) to the employment certificate bureau when the child applies for its working certificate. This gives it a dignity at once and causes the document to be highly prized.

Many children who intend going into high school want to work during the vacation period. They cannot do it without a full working certificate. It is required just the same as though they were going to work permanently. It can be seen that results depend largely on the enthusiasm and loyalty of the nutrition workers. We have been particularly fortunate in those we have had help us. A knowledge of psychology is necessary also in handling various cases, as the approach must be made from a different angle as they develop. One boy who had been especially hard to interest came bashfully up to the physician in charge and standing on one foot and twisting his cap in his hands said:

Say, dere's a guy over dere dat needs dis work bad. He's 20 pounds underweight. Can't you let him into de class?

Well, you know, we have room for only twenty in a class. Now if you do your best, take your exercises and do as we tell you, you can gain enough to get out of the way and make room for him. Will you do it?

Thus stimulated, with a direct object to gain for a "pal," it wasn't long before a proud boy brought up his friend to gain the advantages he himself had obtained from the public school nutrition work.

1924 Sherman Avenue.

Health Supervision of the Schoolchild. — Dr. Taliaferro Clark, speaking before the American Child Hygiene Association, Nov. 11-13, 1919, said that the number of cases of malnutrition, the number of physical defects, and the number of cases of feeblemindedness which are encountered in schools are an index of the thoroughness of the supervision exercised during the age periods previous to entrance into school. His conception of school hygiene, however, is not primarily the detection and correction of remedial defects, but the placing of the normal child in an environment and under such supervision best suited to his complete physical and mental development. Any program for school hygiene or health supervision of the schoolchild must take into consideration the physical surroundings of the child, and must place the child in the best possible sanitary environment during the course of its school life. It must, by reason of the incompleteness of the work done previous to school age, provide for the seeking out and correction of the remediable defects which hamper the child and prevent it from taking full advantage of the educational opportunities, but in addition must include measures for preventing the occurrence of defects.

CONGENITAL HYPERTROPHIC PYLORIC STENOSIS

REVIEW OF ONE HUNDRED AND SEVENTY-FIVE CASES IN WHICH THE FREDET-RAMMSTEDT OPERATION WAS PERFORMED *

WILLIAM A. DOWNES, M.D.
NEW YORK

Before taking up the subject matter of this paper, I wish to call attention to an error that has crept into the literature involving the question of priority in the use of extramucous pyloroplasty. The value of this procedure in the operative treatment of hypertrophic pyloric stenosis was first called to our notice at the Babies' Hospital in 1914, and very shortly afterward it was adopted as the routine operation in these cases. Without properly verifying references we attributed the method to Rammstedt, as had been done by other surgeons. The mistake was not realized until some years later, when Dr. Alanson Weeks of San Francisco called my attention to it. After a careful search of the literature, I find that Dr. Weeks is correct, and that Fredet,[1] a French surgeon, deserves credit for the essential feature of the operation, that is, longitudinal incision of the serous and muscular coats of the pylorus, thereby liberating, but not opening, the mucous layer. This surgeon then converted the longitudinal incision into a transverse one by suturing. Two years later, in 1910, Weber [2] of Germany recommended the same procedure, calling it partial pyloroplasty, and stating that after he had performed this operation he found it had been previously employed by Fredet. In 1912, Rammstedt [3] called attention to the advantages of Weber's procedure, but advised omission of the transverse suture and suggested leaving the pyloric wound gaping. As this modification has been adopted by most surgeons using the extramucous or partial pyloroplastic operation, Rammstedt should receive credit for the suggestion, and the operation styled the Fredet-Rammstedt operation.

All patients with hypertrophic pyloric stenosis on whom I have operated, according to the method just mentioned, from 1914 to January, 1920, are included in this report. At the Babies' Hospital, 165 operations were performed; at St. Luke's four, and the remainder in other hospitals. There were thirty deaths in the series, giving a mortality of 17.1 per cent. The results, judged purely from a statistical point of view, are disappointing; and yet a study of the records brings out the fact that the mortality in patients coming to operation in four weeks or less from the date of the onset of symptoms was only 8 per cent. The rule of classing all deaths in the hospital following operation as operative deaths is strictly adhered to, even though several babies died from two to four weeks after operation, and had apparently made a satisfactory recovery. If this rule was generally adopted in recording results, statistics would be of more value. Eighteen babies died in collapse in from three to seventy-two hours. It is only fair to state that all were in extremely poor condition, and that many of them could easily

* Read before the Section on Surgery, General and Abdominal, at the Seventy-First Annual Session of the American Medical Association, New Orleans, April, 1920.

1. Dufour, H., and Fredet, P.: Rev. de chir. **37**: 208, 1908.
2. Weber, W.: Berl. klin. Wchnschr. **47**: 763, 1910.
3. Rammstedt, C.: Med. Klin. **8**: 1702, 1912. Zentralbl. f. Chir. **40**: 3, 1913.

have been classed as hopeless and operation refused; but as we felt that surgical intervention offered the only chance of recovery, they were given the benefit of the doubt.

The average age of this group was nine weeks, with a history of symptoms for more than five weeks. The weight averaged 6 pounds—a loss of more than 2 pounds each—amounting in several instances to more than one third of the body weight. Postmortem examination was negative in every case. Four deaths occurred in from ten to twenty-six days after operation. In two instances necropsy disclosed acute gastroenteritis; but in the other two, findings were negative and for want of a better diagnosis they were called marasmus. The remaining eight deaths were due to complications, and can be charged, with probably one exception, to bad technic or poor judgment. Five of the eight died of general peritonitis in from eight to ten days. Two of these deaths occurred early in the series in cases in which the operation was modified by passing a bougie through the pylorus by means of a small opening in the anterior wall of the stomach. A third occurred in a case in which the duodenum was accidentally opened, although no evidence of leakage was found at necropsy. In the remaining two, no explanation can be offered for the development of peritonitis other than faulty technic.

In passing, it might be well to call attention to the fact that peritonitis was not suspected in at least two instances, as the symptoms were not classical, and for this reason one should be guarded in giving the cause of death after operation in infants as collapse, inanition, etc., unless proved by necropsy. Hemorrhage was responsible for the death of three of the patients. One died in twenty-six hours as a result of bleeding from the pyloric wound, one apparently a true hemophiliac, died on the third day of continuous oozing from the pylorus and abdominal wall, and in the third, with a history of symptoms for twelve weeks, death occurred on the third day following delayed hemorrhage from the abdominal wound. While the amount of blood loss was small, no doubt this accident hastened the fatal termination. In only one case was there evidence at necropsy to indicate that the operation was inadequate, so far as relieving the obstruction was concerned.

The diagnosis of hypertrophic pyloric stenosis is based on the history and physical findings. As vomiting, usually forcible in character, is the first sign that attracts attention to the disease, the onset should be considered as dating from the appearance of this symptom. Loss of weight, more or less rapid according to the severity of the condition, immediately follows. The size and character of the stools vary with the amount of food passed through the pylorus. When the abdomen is inspected, visible peristaltic waves situated in the epigastric region and passing from left to right may be seen in practically every case.

While waves of this character are observed occasionally in conditions other than hypertrophic pyloric stenosis, in only one of our proved cases of this disease was this physical sign lacking, and for that reason we consider it of great diagnostic value. By gentle but deep palpation, the so-called tumor consisting of the hypertrophied circular muscle fibers of the pylorus may be felt to the right and above the umbilicus, or at times high up under the liver or even in the middle line just below the ensiform. This tumor varies in size from the terminal phalanx of the little finger to that of the thumb, and gives an almost cartilaginous sensation to the finger even through the abdominal wall.

Just before the abdomen is palpated, the stomach should be emptied of gas by the passing of a small catheter, and the abdominal muscles relaxed by allowing the baby to suck water from a bottle during the manipulation. If these points are borne in mind, the hard, movable nodule at the pyloric end of the stomach can be felt with little difficulty in nearly every case. Occasionally it may be necessary to give a few whiffs of ether or ethyl chlorid to secure satisfactory relaxation of the muscles.

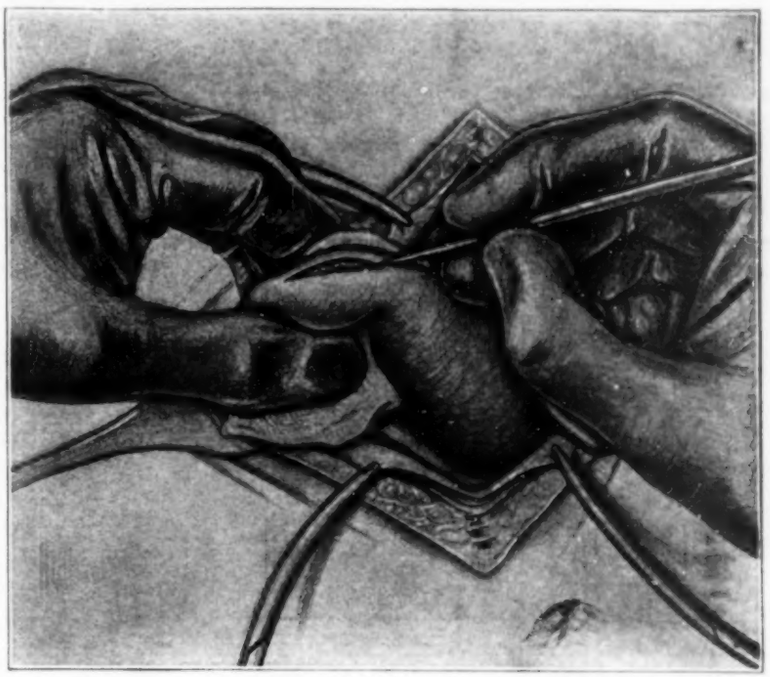

Fig. 1.—Line of incision extending through serous coat and superficial fibers of circular muscle.

The question of feeling the tumor in these cases has given rise to no end of discussion. Undoubtedly, there is a certain knack to the procedure; but if the nodule is once felt distinctly, the chances of recognizing it increase in each succeeding patient examined. In only two out of 217 cases (including thirty-one gastroenterostomies) which I observed and in which I operated up to April 1, has the anteoperative diagnosis of a tumor at the pylorus proved incorrect. In one of these, a small freely movable right kidney was mistaken for a pyloric tumor, but in the other no satisfactory explanation could be given for the mistake. Both occurred some years ago. I myself believe that it is extremely important to develop the ability to feel the tumor in these cases, as its presence is conclusive evidence of the disease. With this finding along with the usual symptoms of projectile vomiting, loss of weight, peristaltic waves, gastric retention, etc., the diagnosis has been proved correct in more than 99 per cent. of our cases, and for this reason we have not

thought it necessary to resort to the roentgen ray as a means of diagnosis in the average case of pyloric stenosis. Many of these babies were admitted to the hospital in such poor condition that immediate operation seemed to offer the only means of saving life. Certainly a delay of from four to eight hours or longer for fluoroscopy or roentgenograms was not warranted when the diagnosis could be established with almost absolute precision if the history was correctly taken and a proper physical examination made. I know of at least one infant that went into a collapse and died while it was being put through a bismuth series. We grant that an occasional vomiting baby is seen in which the history and findings are confusing, when the roentgen ray may be of inestimable value in clearing up the diagnosis.

TREATMENT

As suggested by Holt,[4] congenital pyloric stenosis should be considered as occurring in mild and in severe forms. The determination as to which of these groups a given case belongs depends on the patient's response to medical treatment. If a patient is observed from the onset of symptoms, or if a reliable history can be obtained as to the duration of symptoms, medical treatment is justified for a period of from seven to ten days, provided the baby does not lose more than 20 per cent. of its body weight during this time. If, at the end of this period, the weight has become stationary and there is a general improvement in the other symptoms, this form of treatment may be continued, always bearing in mind, however, that even though the infant seems to be making satisfactory progress there may be a sudden relapse. If so, the case should then be considered as surgical and operation advised. If, on the other hand, there is no improvement under medical care, or if the improvement is unsatisfactory in that the baby is better one day and worse the next so that at the end of from a week to ten days the sum total is that the baby is worse, the case belongs to the severe group, and immediate operation is indicated.

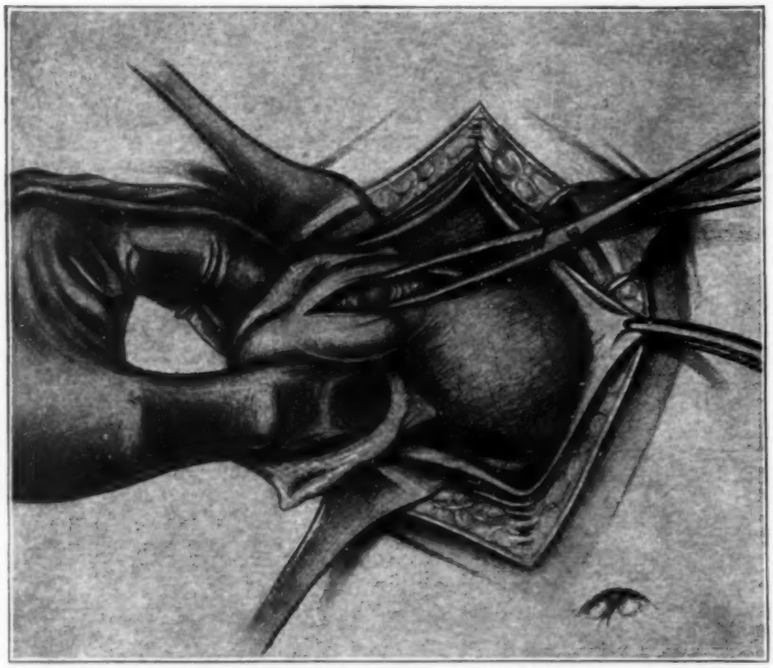

Fig. 2.—Incision spread with artery clamps; mucosa beginning to appear between divided muscle fibers.

Considerable experience in the treatment of this disease is necessary in order to acquire the ability to decide with any degree of accuracy in which group a given case should be placed. As congenital pyloric stenosis is after all not a very common disease, there is little opportunity for the general practitioner to gain this experience. For this reason, any baby with persistent forcible vomiting should be seen by the best available pediatrician at the first possible moment. So frequently is the history misleading or inaccurate and the necessary data, such previous weight, lacking that I believe the question of operation should be taken up in every case as soon as the diagnosis is made.

As has already been stated, those cases in which it is very evident that the symptoms are of short duration, and the condition of the baby good, observation under medical care is allowable for a short time, although the physician should be prepared to turn the case over to the surgeon should there be the slightest change for the worse. Up to the last few years the results following operative treatment of pyloric obstruction in infants were so uncertain that physicians hesitated to recommend this form of treatment; but now that the technic is simplified and the results uniformly good, these objections no longer hold. Surely no man could persist in the medical treatment of this condition beyond the point already mentioned as permissible when the mortality is stated by the best observers to be anywhere from 10 to 50 per cent. or higher under this form of treatment, and it can be shown that the mortality after operation is a fraction under 2 per cent. in selected cases. In a study of the cases at the Babies' Hospital, Goldbloom and Spence[5] call attention to the fact that out of fifty-one breast fed babies coming to operation with a weight loss of less than 20 per cent., only one died. Strauss[6] reports marvelous results following the operative treatment or hypertrophic stenosis in infants. He states that he has operated on 103 unselected patients by a special type of extramucous pyloroplasty with only three deaths—a mortality of less than 3 per cent. The diagnosis was made in each case by the fluoroscope, and in no instance was operation refused because of the poor condition of the baby. From the increasing number of infants with pyloric stenosis admitted to the Babies' Hospital for operation each year, it would seem that the majority of pediatricians now believe that surgery offers more than medicine in the treatment of this disease.

OPERATION

The abdomen is opened through an upper right rectus incision from 1½ to 2 inches in length. When the wound is retracted, the stomach is easily recognized; and if the portion of the anterior wall which

4. Holt, L. E.: Medical Versus Surgical Treatment of Pyloric Stenosis in Infancy, J. A. M. A. **62**: 2014 (June 27) 1914; Hypertrophic Stenosis in Infants, ibid. **68**: 1517 (May 26) 1917.

5. Goldbloom, Alton, and Spence, R. C.: Prognosis in Operated Cases of Hypertrophic Stenosis of Pylorus, Am. J. Dis. Child. **19**: 263 (April) 1920.

6. Strauss, A. A.: Surgical Clinics of Chicago, February, 1920, p. 93.

appears is then picked up with anatomic forceps and gentle traction applied, the pyloric end of the stomach with the tumor is quickly brought into view. The tumor is then grasped between the thumb and index finger, and a longitudinal incision varying from 1 to 1¼ inches in length, according to the size of the tumor, is made at about the junction of the upper and middle thirds (Fig. 1). This incision should start just proximal to the duodenum and should involve only about one-half the estimated thickness of the muscular layer. By gently spreading a pair of small, straight forceps inserted into the center of the incision, the undivided portion of the muscle tears exposing the mucous membrane (Fig. 2), and by continuing this blunt dissection the division is carried down along the line of cleavage to the duodenal ring and well up on the stomach. The separation of the muscular layer from the mucous layer should be sufficiently complete to permit the mucosa to protrude freely into the wound (Fig. 3).

Great care should always be used in spreading the muscle at the duodenal end of the tumor, as the change from the thick-walled pylorus to the normal duodenum with its thin muscular layer is very sudden, and there is great danger of opening the mucous membrane at this point. At the proximal end, the tumor gradually merges into the stomach, and there is not so much danger of injuring the mucous layer. Complete division of the tumor with the knife should never be attempted. As a rule there is little tendency to hemorrhage except in the older babies. A small artery at the duodenal end of the incision may require a ligature; or, if this vessel has retracted under the muscular layer, it may be necessary to suture a bit of muscle fiber, easily obtained from the rectus, over the bleeding point (Fig. 4). In the babies—aged 10 weeks and over—coming to operation, the tendency to bleed is much greater. Besides the artery at the lower angle, there is generally another near the stomach end of the incision. In these cases, continuous suture around the margin of the incision, supplemented by a bit of muscle or omentum, may be necessary to control the bleeding. I do not believe that it is necessary to attempt to cover the exposed mucosa. After the pylorus has been dropped back into the abdomen, the line of incision is again inspected to make sure that all bleeding points have been controlled. The abdominal wall is closed in the usual way.

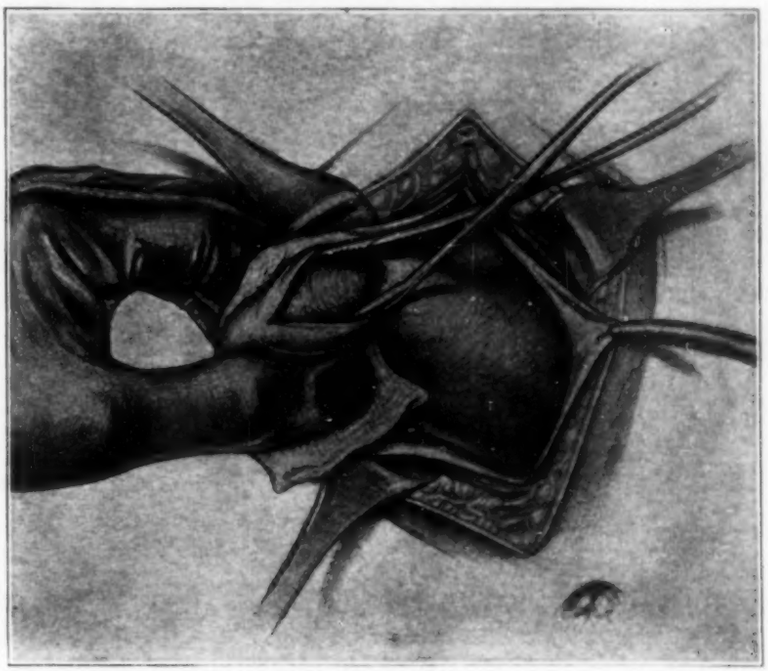

Fig. 3.—Mucosa protruding freely between cut edges of muscle; operation completed.

ACCIDENTS AND COMPLICATIONS

The duodenum was opened three times in this series of cases. The opening was small in each instance, and was easily closed with fine silk suture reinforced by omentum. Two of the patients made a satisfactory recovery, but the third died of peritonitis on the eighth day. Careful hemostasis of the abdominal wound is very important. Four of our patients lost considerable blood from this source, requiring transfusion in two instances. As many of our patients were admitted to the hospital in desperate condition, it was the custom until recently to give a hypodermoclysis of from 150 to 200 c.c. of salt solution preliminary to operation. We now feel that this was a mistake, and that the tendency to bleed was aggravated by this treatment, especially in the older infants. Smaller quantities, from 50 to 100 c.c. of physiologic sodium chlorid or glucose solution given under the skin, beginning from two to four hours after operation and repeated as indicated, is just as efficacious and is a safer procedure. Transfusion both before and after operation was resorted to in a number of cases, but did not prove of value except in those in which there had been hemorrhage, and in one case in which a deep seated abscess developed following a clysis. Practically all the wounds healed by first intention. Sutures are not to be removed before the tenth day. Feeding is begun one hour after operation. At first, from one to two teaspoonfuls of water, alternated with a similar amount of diluted breast milk, is given and gradually increased until the fifth day, when the child should be receiving almost its normal caloric requirements.

The postoperative management of these patients as carried out at the Babies' Hospital was described by Morgan [7] in 1916, and more recently by Goldbloom and Spence. Convalescence in the great majority was without special incident. Loose stools were perhaps the most frequent complication, and were due either to increasing the food too rapidly or to changing from breast milk to a formula, as is often necessary preliminary to discharge from the hospital. Postoperative vomiting is noted as occurring in small amounts or not at all in 107 cases; moderately in twenty-two, and in large amounts in sixteen. Of the patients that died, eleven are recorded as having vomited and nineteen as not.

The average stay in the hospital of the breast fed babies was fourteen days, and of the bottle fed babies twenty-three days. Of the 145 babies discharged as cured, eighty-nine have been seen or heard from in the

7. Morgan, E. A.: The Postoperative Management of Pyloric Stenosis, Am. J. Dis. Child. **11**: 245 (April) 1916.

last two months. All are in excellent health, and with few exceptions are above their normal weight. Eleven are known to have died from one cause or another over periods varying from a few weeks to eighteen months after operation. Forty-five have been lost sight of.

We have been fortunate in obtaining necropsies in two cases in which the patient died of pulmonary conditions a year and a half after operation. The pyloric tumor had entirely disappeared in both instances, and, with the exception of light omental adhesions at the site of the scar, the pylorus appeared normal in every way.

CONCLUSIONS

1. If a satisfactory history can be obtained, and if the findings of a proper physical examination are correctly interpreted, the diagnosis of congenital hypertrophic pyloric stenosis should be made in practically every case.

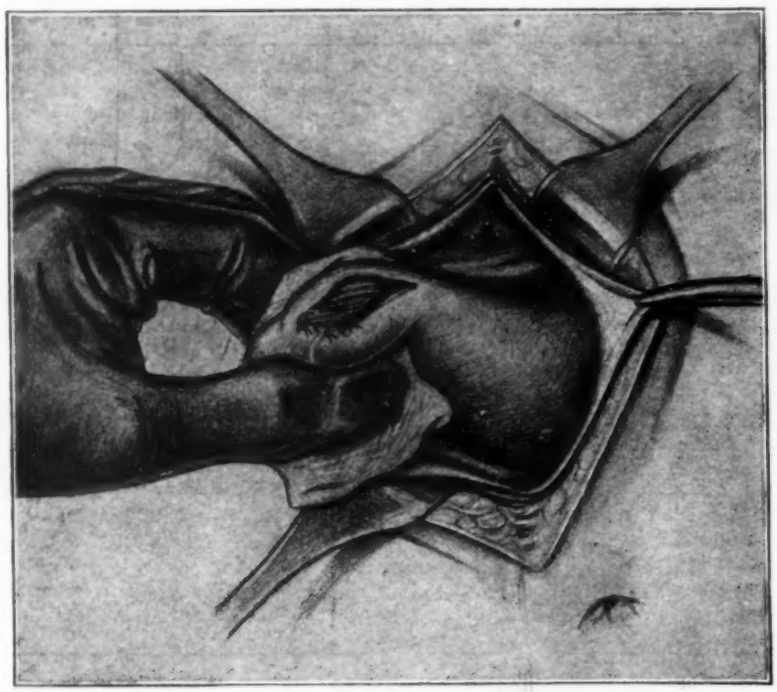

Fig. 4.—Bit of muscle fiber used to control bleeding from pyloric artery.

2. If the patient is observed from the onset of symptoms, medical treatment may be tried for a period of not longer than ten days, provided the weight loss does not exceed 20 per cent. during this time. If, at the end of this period, the child does not show definite improvement, operative interference is indicated. Any patient, continued under medical care, and suffering a relapse should be operated on at once.

3. All cases in which there is a history of a period of ten days or longer in which the data as to previous weight are lacking—and in which the patient is not in very good condition—should immediately be classed as surgical.

4. The mortality among patients coming to operation within four weeks from the onset of symptoms is less than 8 per cent.

5. The results following the Fredet-Rammstedt operation are permanent and the cure complete.

424 Park Avenue.

ABSTRACT OF DISCUSSION

Dr. Dean Lewis, Chicago: I have performed twelve gastro-enterostomies for the relief of congenital pyloric stenosis. Three of the babies died. In one case the gastro-enterostomy perforated, in another the abdominal wall opened on the fifth day, the baby dying from peritonitis, in the third case the baby did not recover, although no definite cause of death could be established. All the patients who recovered had a stormy convalescence. In the thirteenth case, the condition of the baby was so bad that I did not think it wise to perform a gastro-enterostomy and the operation under discussion was performed. This baby recovered rapidly and without any untoward symptoms. I have performed four of these operations since this first one. The babies have recovered. Two other cases in which I operated presented all the symptoms of congenital pyloric stenosis, with the exception of the tumor. These patients were operated on but as no tumor was found the abdomen was closed. Both babies recovered. This operation is simple and can be performed quickly. It meets the conditions and I cannot see how it can be improved on. The incision should be made through the right rectus muscle and should be carefully closed in layers. Opening of the incision has occurred not infrequently when it has been made in the linea alba.

Dr. Roland Hill, St. Louis: In 1,000 children born in a foundling hospital with which I am connected we found five cases of pyloric stenosis. From the increasing number coming in for operation I cannot but believe that the condition has been very generally overlooked, and that physicians are just beginning to recognize it. In regard to the method of operating: Formerly I did a gastro-enterostomy. The babies who were brought in early were in fairly good shape and recovered. Then they began to bring in children practically dead and we lost quite a number. I did fourteen of these operations. One child, a premature baby, weighed 3 pounds 15 ounces. I did a gastro-enterostomy. The baby recovered and is well today, although seven years have elapsed. I have done twenty-two Rammstedt operations. Twenty-one patients recovered and one died. This baby had suppression of urine for twenty-four hours before it was admitted to the hospital, with convulsions, and a temperature of 103 F. This child never urinated after the operation and died of uremia. We saved one very sick baby by injecting glucose into the superior longitudinal sinus. We have found this to be of value in some of these very bad cases. I have had to reopen the abdomen twice. In one case it was due to not making the opening larger. I made a single incision alongside of the first one and the child recovered. In the second case the child had convulsions before being brought in, artificial respiration had to be resorted to before the operation, and still the wound looked fine at the end of the fourth day. On the sixth day, while doing artificial respiration, the wound broke open, the child developed obstructive symptoms and we had to reopen the abdomen. We found adhesions, released them and the child got well.

Dr. A. A. Strauss, Chicago: Too much credit cannot be given Dr. Downes for calling attention to the Rammstedt operation. Dr. Downes brought out that there is a distinct field in the surgery of children and infants. I have treated 163 cases of congenital pyloric stenosis, with three deaths. I operated in 107, with three deaths. The remaining fifty-six patients were treated medically. I insist on a roentgen-ray and a fluoroscopic examination in every case. Such examinations show definitely not only if there is a congenital pyloric stenosis, but also if the patient should be treated medically or surgically. If from 70 to 80 per cent. of the bismuth meal goes through within four hours, there will undoubtedly be recovery in that case by medical treatment, irrespective of any clinical symptoms or tumor. If less than 70 per cent. of

the bismuth goes through, it is an indication for operation. A tumor was found in the 107 cases in which I operated. The fifty-six babies treated medically recovered, and not a single one returned for operation.

If the Rammstedt operation were performed as he described it, the mortality would range from 30 to 50 per cent. The Rammstedt procedure does not release the obstruction sufficiently, and for this reason, the patient, following an operation, vomits from three to five days. If he is in a moribund condition, this postoperative vomiting is sufficient to cause death. The procedure which I devised is a reconstruction of the abnormal condition of the pylorus into a normal one. It frees the infolding mucosa and releases the obstruction completely. For this reason the moribund infant will not vomit, but will retain its food. The mortality rate of my operation is less than 3 per cent. I know of one surgeon who has operated in nineteen cases after my method, without a death, and another, who has operated in twenty-three cases, with one death.

DR. L. T. LE WALD, New York: I wish to emphasize the frequency of this condition in children and the value of the roentgen ray in diagnosis. Of all the gastro-intestinal examinations I have made in the last ten years, I know of no condition in which the diagnosis is so definite.

DR. ARTHUR D. BEVAN, Chicago: I have been impressed by the importance of doing all these operations under local anesthesia. I would go so far as to say that congenital pyloric stenosis should under no circumstances be done under a general anesthetic. The Rammstedt operation is so much easier, so much safer that it has revolutionized the whole subject. Whenever the choice lies between ether anesthesia and a gastro-enterostomy and local anesthesia and the Rammstedt operation, one should not hesitate to choose the latter. I would like to put myself on record as saying to the surgeons of the country that under no circumstances should a case of congenital pyloric stenosis be operated under a general anesthetic. It can be done better and with absolute safety under local anesthesia.

DR. J. L. RANSOHOFF, Cincinnati: The Rammstedt operation has the appeal of complete simplicity and absolute efficiency. It is to my mind one of the most perfect operations devised in surgery and all modifications are unnecessary. I did the gastro-enterostomy before the Rammstedt operation and several Rammstedt operations since. I had one death. This was due to the opening of the duodenum, a very unpleasant complication. I should like Dr. Downes to tell us his exact maneuver in closing these wounds of the duodenum. I had the opportunity of making a postmortem examination of a child six months after a successful Rammstedt operation. This child died suddenly of enlarged thymus. The necropsy revealed a perfect pylorus without a trace of tumor. There was a linear scar at the site of the old incision, no adhesions and the scar was completely covered with peritoneum. Subsequently, in another case where I had done a Rammstedt operation, the mother heard of the result in the case of the child that died of enlarged thymus and became very much alarmed. She brought the child to me and a roentgenogram showed an enlarged thymus. Dr. Palmer, of Cincinnati, among twenty cases has found five cases of enlarged thymus.

DR. W. A. DOWNES, New York: I do not subscribe to the views expressed by Dr. Bevan regarding the use of local anesthesia in these cases. I have tried it in various cases without very satisfactory results. It is important not to allow the stomach to extrude and not to let the intestine to come out into the wound, and with a child struggling and cryng, as it would with local anesthesia, I do not see how this could be prevented. I always use ether, never chloroform. I cannot make a statement regarding the frequency of enlarged thymus in these cases.

Confidence in the Physician.—One of the chief efforts of the physician is to establish a feeling of confidence in the patient and in the family, and to relieve anxiety. The success of this effort depends largely on personality, but consciousness of real knowledge is a most important factor contributing to such an inspiring personal relationship.—Rufus Cole, *Science*, April 2, 1920.

HYPERTROPHIC PULMONARY OSTEO-ARTHROPATHY FOLLOWING LUNG ABSCESS

FURTHER NOTES ON A PREVIOUSLY REPORTED CASE *

ETHAN FLAGG BUTLER, M.D.
Major, M. C., U. S. Army
NEW YORK

The more important points in the history of this patient prior to his transfer from the base hospital at Fort Sam Houston, Texas, to the Walter Reed General Hospital, as given a year ago by Erdman,[1] were:

B. M. W., aged 24, a first lieutenant, Flying Detachment Air Service, presented a negative family history except for glycosuria in the father. The past history was negative. There was no venereal history. At the time of his commission in the army, the patient was a student at the University of Pennsylvania, and had shown average ability as a student. There had been no respiratory tract infection prior to the present illness. The patient had tonsillitis in December, 1917. Tonsillectomy under general anesthesia was performed in January, 1918. Within a few days he developed a "cough," and later "pleurisy," and was on sick report for about two months. In May, 1918, he reported at Kelly Field, for instruction in aviation. May 29, 1918, he crashed from 700 feet, and was badly bruised and shaken up, but no fractures resulted, and he was in the hospital only three or four days. However, his cough returned, and he was given sick leave. During this leave he first noticed a change in the contour of the extremities—a painless swelling, first of the knee joints, and later of all the joints of the extremities, and particularly of the hands and feet. In August, 1918, the patient was admitted to the hospital for observation. The following month a lung abscess was diagnosed and drained by a two-stage operation. The abscess was in the lower left lobe. A culture showed the presence of *Staphylococcus albus* and a typhosus-like bacillus. On account of the situation of the abscess, surgical solution of chlorinated soda could not be used. Vaccines were prepared, but their use was followed by no demonstrable benefit. Following drainage there was slight improvement in the condition of the extremities, but if for any reason free drainage was interrupted there was an increase in the swelling and more pronounced discomfort.

Fig. 1.—General appearance of patient five months after operation (to be compared with corresponding picture in Erdman's original report).

Insomnia and irritability had been present for some time, but not until November, 1918, following the armistice, did pronounced mental symptoms appear. The patient himself has attributed them to disappointment in failing to go overseas, and to the realization that the war had come to an end, and

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* From the Surgical Service of the Walter Reed General Hospital, Washington, D. C.

1. Erdman, Seward: Hypertrophic Pulmonary Osteo-Arthropathy (Bamberger-Marie Disease), J. A. M. A. **73**: 259 (July 26) 1919.

that all he had to show for his service was a "wound in the side from which corruption poured." At all events, he became much depressed, introspective and apparently on the verge of a psychosis.

Fig. 2.—Hands at time of admission.

Erdman thus summarized the course, up to the time of transfer:

Summary—There was an involvement of the left lung, probably the effect of an aspiration infection following tonsillectomy under ether. There was a chronic productive cough. There was a rapid enlargement of the feet and hands during a period of six months. A lung abscess was drained, September, 1918, with a resulting persistent bronchial fistula. Mental depression and insomnia were present. There was a slight loss of weight. There was no evidence of syphilis or tuberculosis. The pathologic condition in the enlarged hands and feet and other regions is best revealed by the roentgenograms, which show, besides the enlargement of the overlying soft parts, a definite striated production of new bone in the periosteum of the shafts of the metacarpals and the first two rows of the phalanges, also along the lower ends of the radius and ulna. The corresponding bones of the lower end of the femur; also the clavicles and some of the ribs are to a degree affected. The joint surfaces appear unaffected. There is fluid in the knee joints.

Negative Findings—The fingers are not "clubbed." No pituitary or thyroid changes are present. There are no headaches, disturbance of vision nor drowsiness; on the contrary, very marked insomnia. There are no changes in face, lips or skull. There is no evidence of abnormal thirst or hunger, and there are no alterations in the special senses.

FURTHER COURSE

At the time of his admission to the Walter Reed General Hospital, March 28, 1919, the patient presented the following picture:

There was a bronchial fistula in the left posterior chest wall, opening through a sinus of 4 or 5 mm. diameter, at the level of the eighth rib. This sinus tract was 9 cm. long, and at the bottom it was possible to see, by endoscope, a defect in a bronchial wall. This was an opening of 2 or 3 mm. diameter, apparently the only such opening. A hemolytic strain of staphylococcus was obtained by culture, but the intensity of the infection was so slight that but one organism could be found in ten microscopic fields by direct smear.

The patient also presented a symmetrical enlargement of the extremities, as has been adequately described in the original report by Erdman. It should again be emphasized that this enlargement was not limited to the distal phalanges, as in the typical "clubbed fingers" so often found in these cases, but involved the whole hand and foot, as well as distal halves of the forearm and legs. Furthermore, the enlargement was not similar to the changes noted in acromegaly, in that the length of the members was not increased, but only the circumferential measurement. At no time during his stay at Walter Reed did the patient show any fluid in any joint cavity. That had apparently disappeared completely, following the original drainage of the lung abscess. There was diminution in the strength of muscles of the extremities. There was restriction of motion in all the joints. There was difficulty in performing fine movements, not on account of any loss of nerve function, for none such was demonstrable, but on account of the unwieldy members themselves. The gait was waddling; he required assistance in dressing.

Roentgen-ray examination showed the bony changes to consist of marked irregular periosteal proliferation, apparently limited to the diaphyses, and an osteoporosis, which may have been either a disuse atrophy or a pathologic process primarily. The joint surfaces were not involved. There was no evidence of pathologic change in the epiphyseal lines. Limitation of joint motion was due to changes in the shafts of the bones, rather than to changes in the joints themselves. There was a brawny infiltration of the soft tissues.

Mentally, the patient seemed to be on the verge of a psychosis. He appeared unable to obtain sufficient rest. He was depressed, irritable and introspective. There were no definite delusions, and no hallucinations. He required close watching to prevent him from performing such pranks as one might reasonably expect from a mischievous boy of 6 or 7. There was no attempt at injury to himself or others.

The mental condition required the first consideration. Rest, reassurance, and the diversions of occupational therapy gradually produced a marked improvement in that element of his syndrome. Throughout this period he also received treatment in the department of physiotherapy for the osteo-arthropathic condition. Such treatment included, at various times, massage, baking, diathermy, whirlpool baths and hot cabinet baths. On account of the irritability and restlessness of the patient, frequent changes had to be made in this course of treatment. There was slight improvement in his general well being, but no demonstrable change in the bony parts, so long as the fistula remained open.

Fig. 3.—Final appearance of right hand.

In May, 1919, it was possible to attempt a closure of the bronchial fistula. Fulguration of the entire tract by high frequency sparks was done in the hope that complete destruction of any epithelial lining, and subsequent cicatrization would obliterate the

fistula. Three such attempts were made without inconvenience to the patient. The net result was to decrease the caliber of the tract, but the fistula remained.

Fig. 4.—Chest during attack of influenza in January, 1920, showing involvement on the right side.

August 19, Lieut.-Col. Carl Eggers and I closed the fistula by operation. Approach to the chest wall was by a posterior linear incision at the level of and parallel to the ninth rib. The fibers of the latissimus dorsi were cut transversely, and the chest wall proper exposed. The sinus tract was naturally excluded in this incision. Subperiosteally from 5 to 10 cm. of the eighth, ninth and tenth ribs were resected, and then the remaining structures of the chest wall, intercostal muscles, nerves and vessels, as well as the periosteal sheathes, were removed *en masse*, the fistulous tract, so much of it as lay in the chest wall, coming away with this mass. The old adhesions still held the lung to the chest wall. These were gently loosened at the edge of the defect, care being taken, however, not to reach the general pleural cavity, but merely to give the lung slightly more mobility than it formerly had had. The dense scar tissue surrounding the fistulous tract at its point of entry into the lung was dissected free, allowing collapse of the mouth of the fistula, and then this mouth was touched with the actual cautery lightly. The wound was closed by suturing the divided latissimus over the chest wall defect, and tightly closing the skin except for one rubber tissue drain leading down to the lung surface at a point remote from the fistulous opening. The entire operation was performed under local anesthesia (1 per cent. procain) and was well borne by the patient.

Recovery was rapid and uneventful. In two days, all drainage was removed. There was a slight serous discharge for a few days; otherwise primary healing of the wound was uninterrupted. All dressings were discarded at the end of three weeks.

From that time the wound has remained healed, there has been no cough and no sputum, and repeated physical and roentgen-ray examinations have failed to reveal any intrapulmonary trouble. It is of special interest to note that in January, 1920, while the patient was still under observation, he developed influenza and an extremely light bronchopneumonia, which involved only the right lower lobe, leaving the left side of the chest, the side of the previous trouble, entirely free.

Examination made in February, 1920, prior to the discharge of the patient, revealed slight asymmetry of the chest, the left side being smaller than the right; slight diminution in the expansion of the left side; the presence of a linear scar, firmly healed, on the posterior chest wall, at the level of the ninth rib; vocal fremitus well transmitted over the right, but diminished over the entire left; percussion note resonant over the entire right and the left front, but slightly impaired over the left back and axilla; marked dulness commencing 2 cm. below the inner end of the scar and 1 cm. below the outer end of the scar; breath sounds normal over the right, but expiration slightly prolonged over the left front and axilla, distant over the left back, except for the area of the defect in the chest wall, where they were near and intensified, and in quality suggesting amphoric breathing, without being frankly so; voice sounds loudly transmitted over the area of the defect, and higher pitched on the left than on the right; whispered sounds very loudly and plainly transmitted over the area of the defect, elsewhere there being no change between the left and right sides.

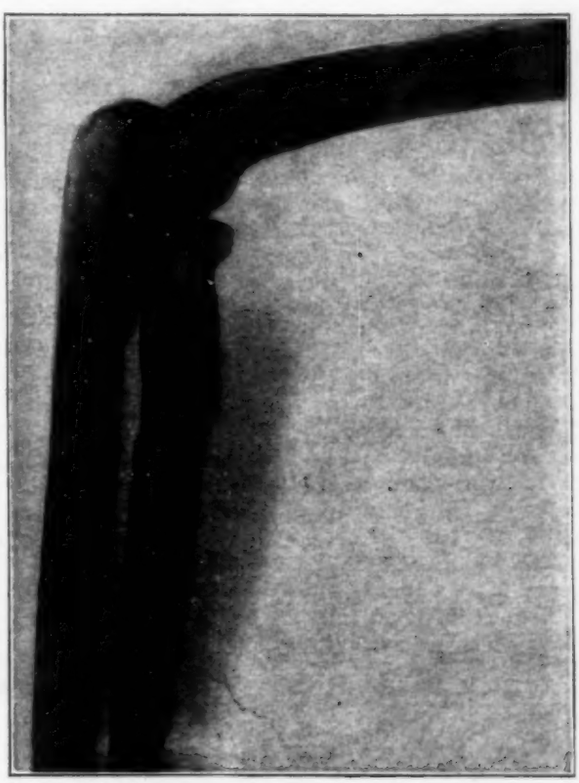


Fig. 5.—Final appearance of left elbow.

Fig. 6.—Final appearance of left foot.

Roentgen-ray examination of the chest detected nothing of significance on the right. On the left there was slight pleural thickening at the level of the fourth to the seventh rib, axillary region; the diaphragm line was smooth; the costophrenic angle was more shallow than on the opposite side.

Immediately after the closure of the bronchial fistula there was noticeable improvement in the osteo-arthopathic condition. Resorption of the periosteal proliferation commenced: first, and most marked, in the phalanges; later, and less marked, in the long bones of the extremities. At the same time there was an increased deposit of lime salts throughout the shafts of the bones, and the old picture of osteoporosis was no longer as marked, in the roentgenograms. Soft tissue infiltration disappeared concurrently with the improvement in the bony condition. The range of motion at the joints increased. Throughout this period the patient continued to receive the benefits of active treatment in the department of physiotherapy, but also he undertook many more outdoor activities and indulged in normal exercise. The improvement in the bone cortex and in the soft parts was probably influenced greatly by the latter factor.

Mentally there was also marked improvement. With the freedom from dressing attention, he became more cheerful. With the improvement in the condition of the extremities he developed more self-confidence. However, there remained periods of depression, and he continued to be introspective and apprehensive lest other misfortunes might befall him.

COMMENT

It is fair to consider that the general outlook for this patient is good. No further trouble should be anticipated from the old lung abscess. The influenza in January, 1920, was a severe test. There will probably be always a residual chronic periostitis. Eventually complete recovery from all neurotic symptoms should take place.

The case is of particular interest in reference to the improvement in the osteo-arthropathic condition that followed the elimination of the focus of infection in the lung. It may serve as a plea for early definitive surgical action in similar cases.

345 West Fiftieth Street.

ACCESSORY SINUS DISEASE AND CHOKED DISK*

HARVEY CUSHING, M.D.
BOSTON

A number of papers have recently appeared in our journals on the relation of visual disturbances to inflammation of the ethmoidal and sphenoidal cells. The matter has finally come to the attention of the general profession as well as to those whose chief interests lie in the province of rhinology. So many unhappy consequences of indiscriminate and ill-advised operations on the accessory sinuses have come to our attention in this clinic that I feel more or less obligated to express an opinion on the matter. If harm, as I believe, is actually being done to patients by lack of understanding of these conditions, unless we set ourselves straight concerning them harm will certainly come to surgical rhinology, and this we all wish to avoid.

There can be no doubt but that suppurative inflammations of the ethmoid or of the sphenoidal cells may in certain cases lead to inflammatory changes of adjacent nerves. We are sufficiently familiar with this in the case of the neuralgias which accompany suppurative infections of the frontal or maxillary sinuses. Much has been written, too, in regard to similar extensions of infective processes to Meckel's ganglion, producing the so-called nasal neuralgia, regarding the prevalence of which, however, I have ventured to express doubts. However, it is perfectly conceivable that suppurative processes in the ethmoid cells adjacent to the optic foramina may set up similar disturbances in the optic nerves. But what is inconceivable is that these processes should produce choked disk.

It is important to bear in mind that what by common usage is referred to as choked disk (Stauungspapilla; papilledema) is a condition brought about by mechanical causes, and that optic neuritis, papillitis and other similar terms are misnomers for this condition. Inflammatory processes may affect the optic nerve in such a way as to produce reddening, injection and possibly such a degree of hyperemia and vascularity of the nerve head as to resemble the early hyperemic stage of a choked disk, but it is unbelievable that an infection of the accessory nasal sinuses in the absence of increased intracranial tension should produce an actual choked disk. On the part of the rhinologists, the statements which accompany their papers are extraordinarily unconvincing. I may give a few quotations from a recent number of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

> Its pathology [hyperplasia] has always seemed to me rather obscure. Many specimens have been sent to the laboratory but nothing of interest has been discovered. . . . I had high hopes of getting some valuable information: but the report as usual was negative.
>
> It would probably be difficult to find an adult individual in a temperate climate who does not present an example of this bone change within his nasal chambers which I have a right to call pathologic. It is only exceptionally that the symptoms to which it gives rise are sufficient to cause him to seek relief. . . . it is readily seen that many of these cases have a condition so elusive as to be difficult of detection, either microscopically or macroscopically. In looking into these noses one is disappointed in not finding much, if anything, pathologic.
>
> It is always a disappointment to the ophthalmologist when pus cannot be found and the roentgenograms are negative. It is difficult to convince some that there is such a thing as hyperplasia; but case after case has demonstrated that *pressure sufficient to cause atrophy of the nerve* [italics mine] can take place in a nose that on both inspection and roentgen-ray examinations showed practically nothing abnormal.
>
> While it is a source of satisfaction to operate on patients with a marked nasal pathologic condition, nevertheless one should realize that unless some definite explanation for the loss of vision can be found elsewhere, its most probable origin is in the sinuses. The diagnosis of accessory sinus disease in cases of practically negative nasal findings is largely made by exclusion.
>
> It is well known that cases of blindness from accessory sinus disease recover spontaneously. Four of my patients have told of previous attacks in which the eyes were blurry for two or three days and the vision defective, but from which they recovered without treatment.
>
> Thus the demand for early operative interference in the cases of total loss of vision is much more imperative than when the loss is but partial. It would seem the wiser course here to err on the side of advising operation too soon and possibly unnecessarily than to risk a patient becoming permanently blind through delay.

It may be unfair to take random paragraphs from a well-intentioned paper, but I cannot conceive of a feebler argument on which to base the widespread advocacy of so serious an operative procedure as

* From the Peter Bent Brigham Hospital.

one in the upper nasal region. That these operations must be frequently performed I am led to believe by the articles I have seen. That they frequently meet with disaster in the hands of the inexpert I am convinced by the fact that I am often urged to see patients in consultation who are in extremis from meningitis following what was supposed to be a trifling intranasal operation.

Now I may say further, in connection with these papers, that there is great confusion: (1) in citations from the literature, many of which antedate our knowledge of the mechanical factors producing optic atrophy and choked disk; (2) in the variety of lesions considered which vary from the obscure hyperplasia mentioned above to actual suppurative process or even sphenoidal tumors; (3) in that these intranasal procedures of exenteration of the ethmoid cells, removal of the middle turbinate, or opening of the sphenoidal cells are supposed to relieve or forestall a great variety of processes variously described as retrobulbar neuritis, neuroretinitis, optic neuritis, papillitis and optic atrophy.

I confess to a lack of understanding of the causation of certain types of amaurosis which are often attributed to retrobulbar neuritis; but there are so many well recognized neurologic lesions that many produce conditions indistinguishable from them that I have some misgivings when the former diagnosis has to be made. These things, however, are out of my province. But when a retrobulbar neuritis is said to be accompanied by 2 or 3 diopters of swelling we are certainly dealing with something which a hyperplasia of the mucous membrane lining the accessory sinuses is not capable of producing. During the course of the last twelve months many patients with brain tumor have appeared in the Brigham Hospital clinic who had recently undergone radical intranasal operations for assumed infections of sinuses. Were the operations done merely on the chance that the patient complained of obscure headaches or visual disturbance in the absence of choked disk, it would be understandable; but when these operations are performed on people with full-blown changes in the optic nerves and with an idea that cleaning out the ethmoid and sphenoidal regions might check the process, we have certainly gone too far.

Fig. 1.—Rear view of the skeleton of a foot resting on a mirror to show the arc of the under surface of the os calcis and its small bearing area.

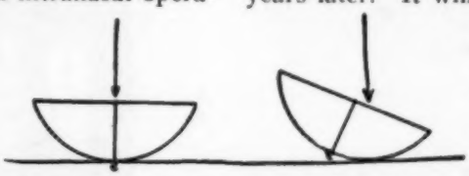


Fig. 2.—Diagram illustrating the cause of rotation of the os calcis in weakfoot: When the thrust of the body weight comes over the center of balance, the bone remains upright. Slight deviation of the point of thrust produces tilting.

Early Diagnosis of Tuberculosis.—Visualization by the roentgen ray probably gives us a clearer idea of the character and extent of lesions in the lung than any other single method of examination except postmortem examination. It is not particularly desirable, however, nor is it conducive to good work in diagnosis to limit ourselves to one method of examination. The isolation of the roentgenologist in his laboratory is no more to be justified than would be limiting one examiner to auscultation and another to percussion. It is only by the most careful correlation of the results of the physical, roentgen and laboratory findings, with the history and temperature record, that we can hope to attain the maximum efficiency in early correct diagnosis.—A. W. Erskine, *J. Iowa State M. S.*, April, 1920.

PREVENTION AND TREATMENT OF WEAKFOOT IN CHILDREN

PERCY WILLARD ROBERTS, M.D.
NEW YORK

About five years ago I called attention to a fundamental principle concerning the production and correction of weakfoot which had not been previously recognized. It was demonstrated at that time that rotation of the os calcis on its anteroposterior axis controls the degree of strain which the longitudinal arch is called on to bear, and that by directing the course of such rotation outward, foot strain may be prevented and weakfoot overcome. During the interval that has elapsed, the theory has been put to extensive clinical tests which have proved its soundness and made clear its value in preventive work when applied to children's feet.

The old adage, "as the twig is bent the tree is inclined," aptly applies to the child's foot. If through mechanical support and muscle training its balance is maintained through the period of growth, there will result a normal foot, architecturally correct and muscularly strong enough to meet all the demands that may be made on it in the years to come. As foot troubles in adult life have their origin many times in improper development of the pedal tissues in early childhood, it is evident that the subject under discussion is one deserving of more consideration than it usually receives.

At the end of the first year of life, when the baby begins to stand, the bones of the feet are hardly more than an orderly arrangement of cartilaginous masses. Centers of ossification are present in the astragalus, os calcis and cuboid at this time, but they do not appear in the other bones of the tarsus until from one to three years later. It will be apparent, therefore, that these structures are in a condition to be profoundly influenced by the stress and pressure that may be brought to bear on them. They will grow into perfect or imperfect bones as circumstances may ordain; hence the wisdom of experienced supervision of the child's foot throughout this important period of development.

There are three factors commonly at work to disturb the fulfilment of Nature's plan for the formation of the foot, namely, improperly designed shoes, unequally developed leg muscles, and a deviation in the normal mechanical relations between the tarsus and the leg. The importance of the last of these will be apparent on examination of the simple basic principles underlying the attitude of pronation. As will be seen by referring to Figure 1, the bottom of the os calcis is approximately an arc, and the weight of the body is resting on a single point, representing the center of balance of this bone. So long as the thrust of the body weight is carried directly over the center of balance, the bone will not tilt; but if it is shifted, let us say to the medial side, the bone will rotate inward (Fig. 2).

The ligaments on the bottom of the foot bind the os calcis and the bones anterior to it so firmly together that they must move as one mass. Therefore inward tilting of the heel bone will lower the inner border of the foot, as shown in Figures 3 and 4, and pronation becomes an established fact with the consequent evil of strain on the ligaments of the longitudinal arch. The result of long-continued strain of this nature will ordinarily be stretching of these ligaments and the production of weakfoot. The prevention of this fault in attitude is easily possible if the young foot is properly trained. Perhaps the most important single factor in the development of a normal arch is the maintenance of the upright position of the os calcis during the period of growth. In some cases it is necessary only to raise the inner border of the heel of the shoe to insure this result. In others, some firm mechanical appliance capable of grasping the heel, such as the plate to be described later, will be indicated. It is the custom of the day, when a child has weakfoot, to put in the shoe a plate which presses up the arch. In the light of my experience this would seem to be both physiologically and mechanically wrong—physiologically wrong because constant pressure on the plantar tissues interferes with their development, and mechanically improper because the force is inefficiently applied. The desired correction can be much more readily obtained by an apparatus whose effective force is applied directly to the heel, and the permanence of the results will be more certain.

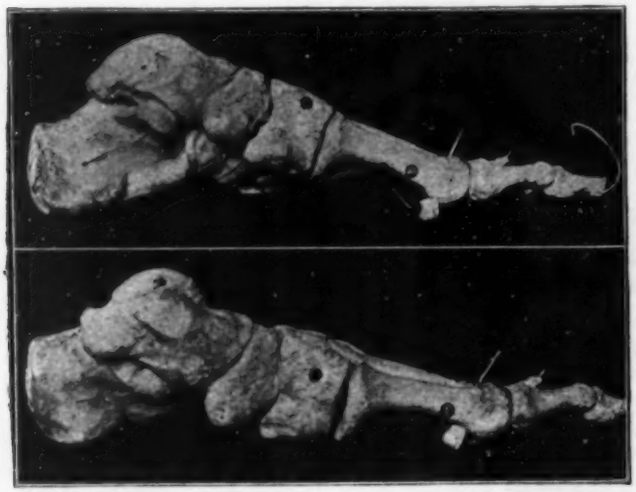


Fig. 3.—Above, normal position of tarsal bones; below, depression of the arch by rotation of the os calcis on its long axis.

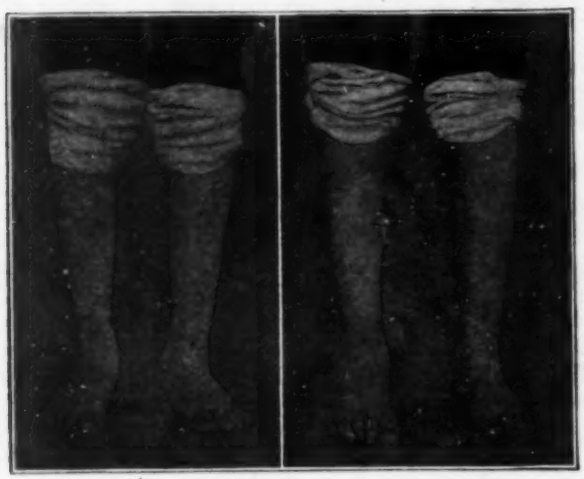


Fig. 4.—Left, moderate weakfoot; right, correction of inward bulging of the internal border of the right foot by rotation of the os calcis.

Much can be done toward maintaining the proper alinement of the bones of the foot by muscle training; but the use of this measure must of course be deferred until such time as the child is old enough to cooperate intelligently; therefore the question of shoes takes second place in any reasonable scheme of prophylactic supervision of foot growth. While it may be profitless to discuss the relationship between present day foot troubles and the civilized custom of shoe wearing, it must be admitted that if the foot of the savage is normal, then our own are anatomically distorted, and the natural inference is that shoes are responsible. This is very likely true, for we have seen that the bones of the infant foot are soft structures readily influenced by continuous compression; and we know that long before the baby has any inclination to stand, his feet are encased in leather coverings which, in the nature of things, must affect their development. From that time onward the foot, when in use, is always subject to the restriction of movement imposed on it by a shoe. To avoid undue distortion it is necessary, therefore, to select children's footwear with an intelligent understanding of the needs of the growing foot.

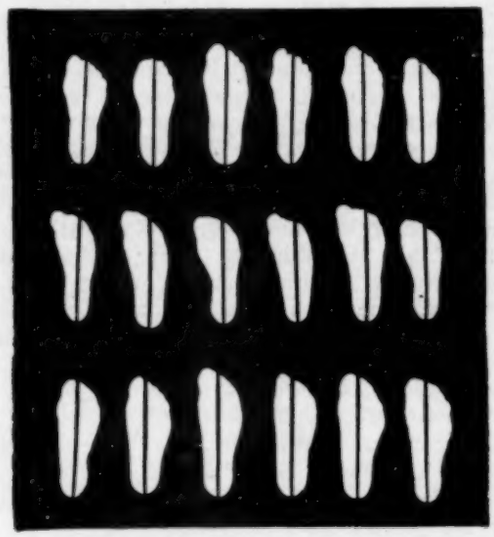


Fig. 5.—The three types of normal feet described by the American Posture League: upper row, straight feet; middle row, inflared feet; lower row, outflared feet.

Fig. 6.—Roberts' plates: The small plate, which was used with success in about fifty cases and proved the theory of arch control by rotation of the os calcis, extends forward only to the anterior border of the os calcis.

During the first ten or twelve years of life, the foot should have ample room to expand laterally as well as to grow in length. To meet this condition, a proper shoe may be described as one which is sufficiently wide

at the ball of the foot to avoid crowding the heads of the metatarsals together when the wearer is standing, and in which the inner and outer borders of the sole maintain a straight line well beyond the great and little

Fig. 7.—Left, severe flatfoot; right, correction obtained by standing on the plates. This correction is naturally much greater when the foot and the plate are held together by a shoe. Note the effect on the Achilles tendon.

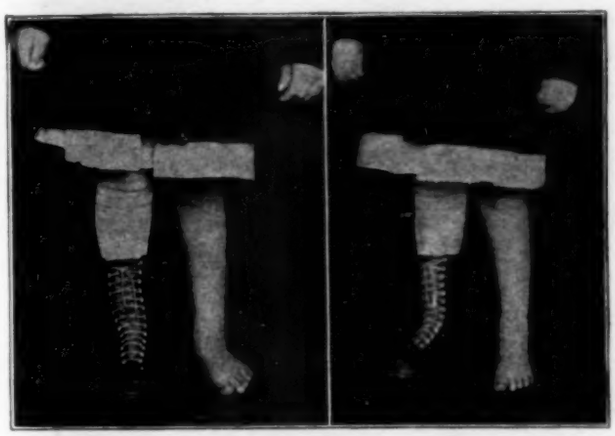


Fig. 8.—A case of paralytic valgus: left, standing without plate; right, standing on short heel plate.

toes. The popular idea that the anterior part of a shoe should swing inward, a design so often seen in so-called "orthopedic" lasts, is based on an entirely erroneous conception of the normal foot. This fact seems proved by an investigation carried on by one of the technical committees of the American Posture League which collected about two thousand tracings of normal feet from various parts of this country, Japan and India, among which were many outlines of feet that had never worn shoes. Careful examination of these by means of a geometric scale revealed the fact that there exist three distinct types of feet (Fig. 5) and not merely one, as we formerly supposed. The first has been designated as a "straight foot," because a line bisecting the heel and extended forward divides the anterior part of the foot about evenly. The term "inflared" has been applied to another type in which the anterior half of the foot appears to swing inward, conforming to the shape of the conventional orthopedic shoe. In the third type, called "outflared," that part of the ball of the foot on the outer side of the bisecting line is much wider than that on the inner side. Unfortunately, there is no record of a similar study of children's feet; and until scientific data are available, we must be content to treat the child's foot on more general principles when it comes to the selection of shoes, bearing in mind that compression of either the outer or the inner borders of the feet is to be avoided.

Although definite muscle training cannot be carried out effectively at an early age, something can be accomplished by teaching the child to walk on its toes and by devising simple games that will bring this attitude into play, thus helping to develop the strength of the anterior and posterior tibial muscles. Later the much used exercise of rising on the toes and coming slowly down on the outer borders of the feet will be found helpful in attaining the same end, if it is persisted in over a considerable period of time.

Maintenance of the upright position of the os calcis, or its rotation outward if there is an inclination to pronation, may be comfortably achieved by the plates illustrated in Figure 6. Their efficiency has been proved in many hundreds of cases in the last five years, and they have been found to possess a definitely curative value in the treatment of weakfoot in children. Their function is to rotate the heel, and this is accomplished by tilting the floor of the plate under the calcaneum and by pressure of a thumblike flange which engages the tissues over the inner side of the bone toward its posterior extremity (Fig. 7). In the first fifty cases treated, a short plate reaching forward only as far as the anterior border of the os calcis was used exclusively, and the results that were obtained proved the theory that foot strain can be relieved by outward rotation of the calcaneum. Later the design was changed to

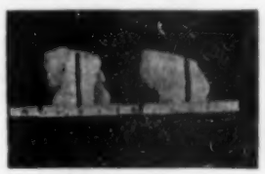


Fig. 9.—Rear view of casts in a severe case of flatfoot. That on the right shows extreme bulging of the inner border of the right foot; that on the left, the result of a year of treatment with Roberts' plates.

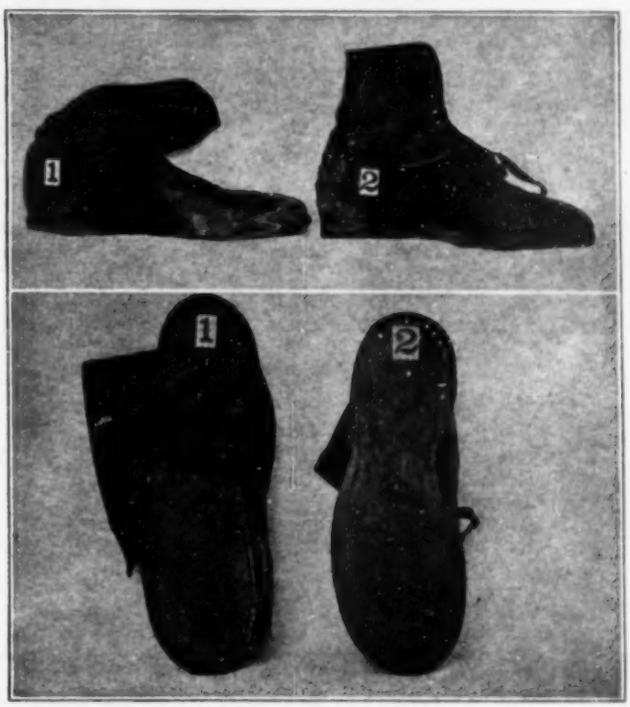


Fig. 10.—Two shoes worn by a child with paralytic valgus: 1, effect of two weeks' wear without a plate; 2, effect of four weeks' wear with a plate.

include an extension to the ball of the foot, which cares for any weakness of the anterior arch and also gives the apparatus greater stability. The corrected position in which the os calcis is held finally becomes the attitude of habit in the majority of cases and it is usually possible to omit the support in about two years and occasionally earlier. Their effect is clearly shown in Figures 7, 8 and 9.

One of the most striking demonstrations of the action of these plates is seen in cases of paralysis of the anterior tibial muscle which allows the foot to roll into the valgus position (Figs. 8 and 10). Mild types of this deformity can be perfectly controlled by this device until the patient is old enough to undergo operation for a permanent correction. Cases of this kind illustrate, too, the soundness of the theory that pronation of the foot can be overcome by outward rotation of the os calcis. In a word, control of the calcaneum is the key to the correction of weakfoot, especially in children.

576 Fifth Avenue.

Clinical Notes, Suggestions, and New Instruments

SOME NEW SPLINTS AND APPLIANCES*

CHARLES F. CLAYTON, M.D., FORT WORTH, TEXAS

The appliances shown in the accompanying illustrations were developed during the reconstruction work at U. S. General Hospital No. 29, Fort Snelling, Minn. They are believed to possess advantages over appliances previously described in the literature, designed to meet the respective needs which furnished the incentive for their development. A brief description of each one of them will suffice, with the illustrations, to make clear the underlying idea, and enable any one, with a few tools and a little material, to reproduce them for his own use.

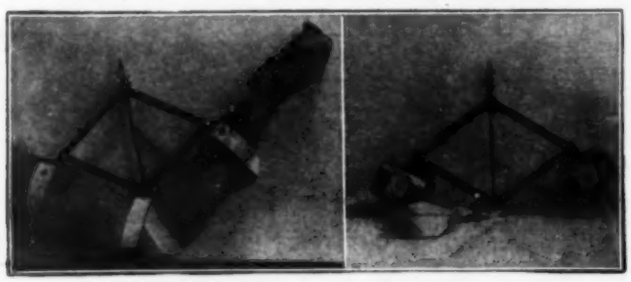


Fig. 1.—Extension splint for elbow.

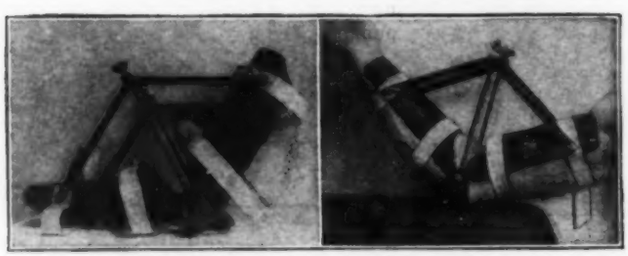


Fig. 3.—Reversible splint for elbow.

EXTENSION SPLINT FOR ELBOW

This splint (Figs. 1 and 2) is an adaptation of the diamond splint idea. Its special features are: first, the narrow cuffs, attached to the bars of the diamond on swivels, thus insuring equal pressure throughout, and reducing thrust to a minimum; second, the elbow strap, passing through the slot in the metal, which holds the center of the splint fast to the anterior surface of the joint, making it possible to force the joint to complete extension, and, third, the threaded rod and winged nut, by means of which extension is accomplished. The advantages of the splint are that it is light, comfortable, simple in construction, that it exerts pressure exactly where pressure is required, and that the pressure can be regulated perfectly to suit the requirements of the individual case. An important feature of this splint, not shown in the illustrations, is a felt pad which should be used under each turn of the elbow strap, to prevent damage to the tissues by pressure.

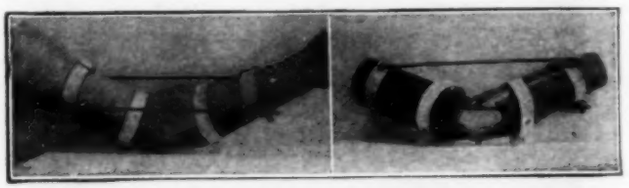


Fig. 4.—Reversible splint for elbow.

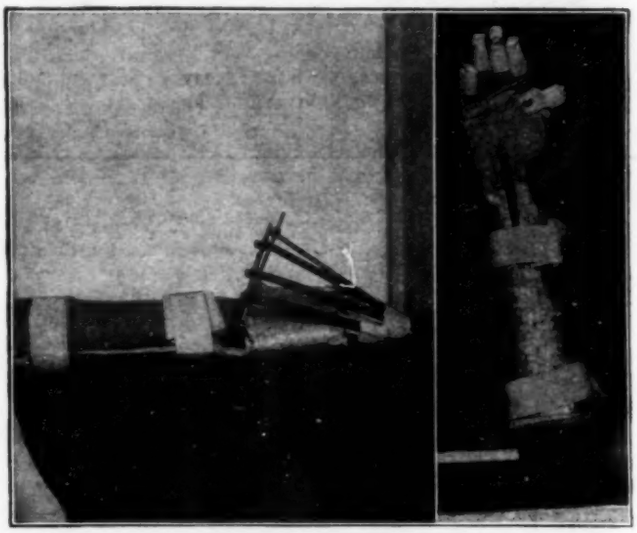


Fig. 6.—Extension splint for fingers.

REVERSIBLE ELBOW SPLINT

This splint (Figs. 3, 4 and 5) is modified from a plan submitted by Capt. E. A. Klein, Medical Corps, of Cincinnati. The method of applying force by means of which flexion or extension is accomplished is exactly the same as in the extension splint, except that two threaded rods and nuts are used in each position with this splint. It possesses the advantage over the foregoing of accomplishing both flexion and extension.

As these splints are used, the ends of the threaded rods beyond the winged nuts should be bitten off with nippers from time to time, as flexion or extension progresses, thus rendering the appliance less cumbersome.

EXTENSION SPLINT FOR FINGERS

Every surgeon has experienced the difficulty, with the means ordinarily at hand, of restoring function to fingers in contracture, the result of peripheral nerve injuries, or the involvement of tendons in cicatricial tissue. The trophic disturbances which so often accompany this condition render splinting most difficult, because of the pressure necrosis which is so likely to follow attempts at mechanical reduction of the deformity. The appliance, illustrated in Figures 6 and 7, was designed with the purpose in view of distributing pressure in such manner as to obviate this accident. The results which have attended its use in a limited number

* Owing to lack of space the scale diagrams have been omitted. They appear in the author's reprints.

of cases have been most gratifying. This appliance should be made to order for the individual case, as in no other way can the exact fit which is essential be obtained.

It will be observed that the rod and winged nut method of applying force is employed here again. The tremendous force which it is easily possible to exert by this means makes necessary here a word of caution. Care should be exercised, lest too great pressure be exerted on the palmar surfaces of the fingers, this being the only point, when the appliance is properly fitted, at which direct pressure is applied. It should not be attempted to force results too rapidly.

ATTACHMENT FOR THOMAS LEG SPLINT

This attachment (Figs. 8 and 9) was designed for use with positive bone traction, by means of calipers or tongs, but lends itself equally well, as shown in Figure 8, to use with surface traction, by means of adhesive tape applied to the skin. The advantages of this attachment are that by its use fractures of the femur can be treated with the knee flexed, and that the degree of flexion may be regulated at will. Active or passive motion at the knee may even be employed, the slots in the disks at either side permitting a range of motion of about 75 degrees. It will be observed that the method of fastening the attachment to the Thomas splint permits of adjustment to fit the length of any thigh. Moreover, this feature causes the attachment, by sliding on the lateral rods of the splint, to adjust itself automatically, as extension progresses, to increasing lengths of the femur. Provision is also made for adjustment in length of the leg piece, as shown in Figure 9. It will be seen that the attachment may be used with either a full length or shortened Thomas splint, and on each side. Extension may be obtained by means of the Spanish windlass, rod and nut or pulley and weight.

BANDAGE FOR ACROMIOCLAVICULAR DISLOCATION

This dressing (Fig. 10) is thus applied: A piece of felt one-half inch thick, 4 inches long and 3 inches wide is placed

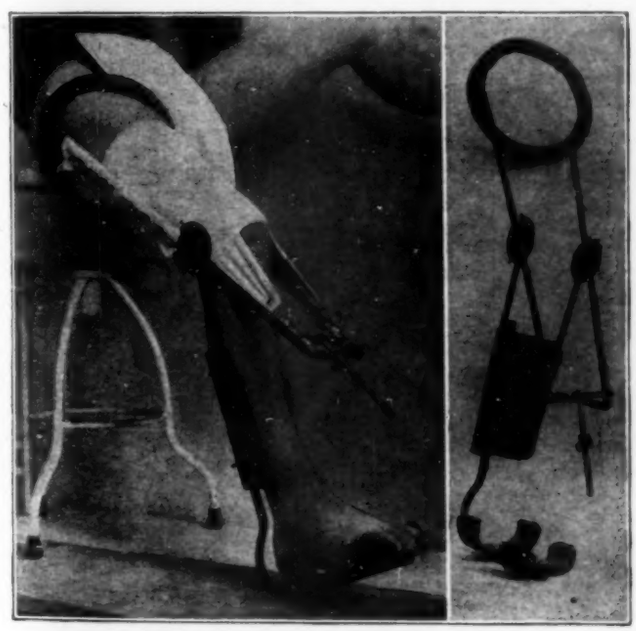


Fig. 8.—Attachment for Thomas leg splint.

directly over the acromioclavicular articulation and the bandage applied, beginning at the injured joint, passing across the back to the axilla of the sound side, across the front of the body, over the injured shoulder, down the back of the arm to the elbow, which is flexed to a right angle, and then up the front of the arm to the starting point. Four or five complete turns are thus made, and the bandage is finished by making three or four turns around the arm, as shown in Figure 10, to prevent the bandage from slipping on the forearm. This dressing has the advantages of exerting pressure evenly over the dislocated joint, and of remaining in place indefinitely.

It is essential to success in the use of these, as of all other mechanical appliances, that they be applied with skill, and and that unrelenting vigilance attend their use. This applies with especial emphasis to appliances by means of which

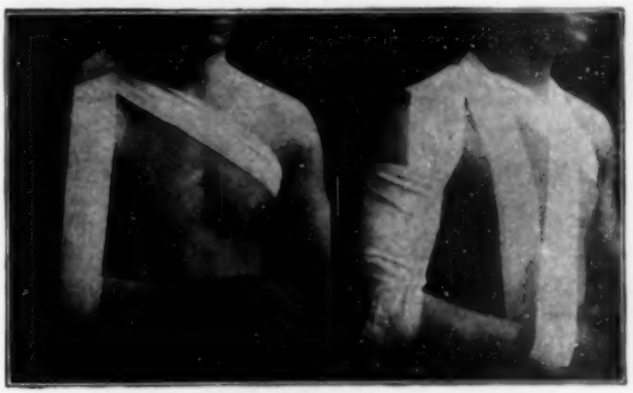


Fig. 10.—Bandage for acromioclavicular dislocation.

force is applied to produce motion in joints. Moreover, the appliances should not be used to the exclusion of other necessary measures.

261 Burton Building.

A NEW COMBINED BLOOD TRANSFUSION AND ASPIRATING MACHINE*

MARTIN LEWIS JANES, M.D., NEW YORK
Instructor of Orthopedic and Bone Graft Surgery, New York Post-Graduate Medical School and Hospital; Pathologist, Bellevue and Allied Hospitals, Gouverneur Division

This apparatus has been used successfully at the Gouverneur Hospital for both blood transfusion and aspirating purposes. The machine has for one of its objects the provision of a multiple cylinder pumping apparatus, two Luer syringes being converted into pumps, so constructed as to provide a continuous flow of blood from donor to recipient, and rendering impossible accidental back-flow. After repeated experimentation with the ball valve, in which balls of various metals and specific gravities were used, it was found to be unreliable because it was not leak-proof. The balls do not always fall into position in their respective sockets to shut the valve completely, thus frequently causing leakage and back flow so that one is not certain whether the blood has come from donor or recipient or vice versa.

Another object of the apparatus is to provide means for supporting and operating opposed pumping devices adjustable to cooperate with pumps (syringes) of different lengths and to vary the length of the stroke of the pump pistons. The machine is so constructed that each pump cylinder, which is a 10 or 20 c.c. Luer syringe, may be quickly and easily disconnected independently of the other cylinder and piston.

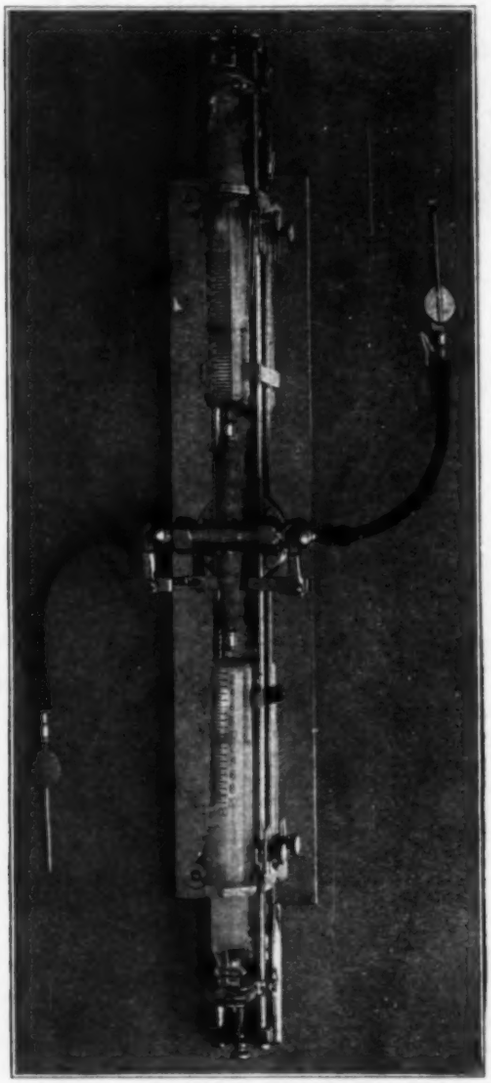
The machine consists of two oppositely faced Luer syringes which are supported on two pairs of saddles, rigidly held to the base plate of the machine and in longitudinal alinement with it. The syringes are removably held down in the saddles by adjustable and detachable clamps having hook portions engaging against the flanged outer ends of the syringe barrels, the clamps being attached to each end-most saddle by means of clamp screws. The syringes with their pistons can be quickly and easily detached from the apparatus by loosening these clamps, which are held tight by means of thumb screws.

The opposed plungers are connected by a reciprocable frame, comprising side rods and end bars to cause the

* Presented before the Section of Surgery, New York Academy of Medicine, April 2, 1920.

plungers to move in unison in the same direction relatively to the base plate and thereby impart a suction stroke to one plunger during the discharge stroke of the other plunger. To reduce friction to a minimum, each end of the frame has a carriage with a pair of rollers adapted to roll on the upper surface of the adjacent collapsible extension plate during the movement of the pistons. The plungers or pistons of the syringes are removably connected at their outer ends with the carriage to move in unison with the frame and carriages, and to permit adjustment of the plungers relatively to each other and to the syringe barrels by adjusting the carriage along the frame.

Each carriage is provided with a fixed, upwardly extending plate adapted to bear against the outer end of the plunger



Combined blood transfusion and aspirating machine.

head, and with an upwardly extending forked plate or yoke adapted to embrace the neck of the piston and bear against the inner end of the plunger head. The plunger is thus held to the carriage to move back and forth with it, but may be quickly disconnected from the carriage when the clamp held against the flanged portion of the barrel is loosened and the syringe is lifted upward.

In the center of the base plate and extending transversely of the plate midway between the syringe nozzles is a tubular member which contains the conduits and valve chambers. The intake and outlet valves are supported at opposite ends of the member, the valves being common to the two syringes. The tubular member is provided with two oppositely extending nipples midway between its ends and in alinement with the nipples on the nozzles of the syringe barrels. The nippples of the syringes and those of the conduit chamber are connected by a short length of rubber tubing.

In order to prevent reversal of the direction of movement of the plunger-connecting frame without first reversing the adjustment of the intake and discharge valves, thus causing a back flow, means is provided for automatically locking the frame against reversal until the valves are properly adjusted. A continuous flow of blood from donor to recipient may be obtained, and accidental back flow is made impossible. The machine may be used for aspirating or pumping out abnormal collections of fluid from any of the body cavities, or for pumping in fluid, as in the administration of arsphenamin, especially in outpatient departments where it may be administered uninterruptedly, and for infusions, etc. The apparatus has been found to be a time and labor saving device, requiring only one man to operate it. It will be noted from the illustration that it is very simple to operate.

The length of the apparatus may be reduced by sliding the end plates centrally, underneath the base plate. The sliding plates are held in position by a thumb screw. The reduction of its length is advantageous in permitting sterilization in a tank of minimum size.

The syringes and apparatus are, of course, sterilized separately. The apparatus can easily be cleaned by removing the screws on the under surface of the plug valves, lifting out the valves from their casings and passing a wire through the conduits. If, after its use, water followed by alcohol and then by ether is run through it, removal of the plug valves from their casings will not be found necessary.

ADVANTAGES OF THE MACHINE

1. It is a one man apparatus.
2. It provides a continuous flow of blood from donor to recipient, rendering clotting impossible.
3. It is a time and labor saving device. Large quantities of blood can be quickly transfused and at the same time measured.
4. It is absolutely leak-proof.
5. It is simple and easy of operation.
6. It can be used both for transfusion and for aspirating purposes, and when intravenous administration of fluid is indicated.

Ritz Chambers.

USE OF ADHESIVE PLASTER IN CLOSING ABDOMINAL INCISIONS

J. H. Carstens, M.D., Detroit

The process of properly suturing the abdominal incision has gone through a long period of evolution, but seems now to be about perfect with the exception of the skin suture, regarding which different views are still held. Some surgeons use the subcuticular suture, bringing the edges of the skin well together and sealing with collodium. Sewing through the skin with silkworm gut leads to the danger of carrying *Staphylococcus albus*, always found on the skin, down to the wound, thereby setting up stitch infection. In addition, removal of the stitches causes trouble and pain and some patients complain of this. Recently, clamps have been employed to hold the skin edges together until healing has occurred, when they are removed. It has been my practice to close the skin incision with strips of sterilized adhesive plaster, a very simple technic practiced even by the laity in ordinary injuries of the face. The abdominal layers are carefully sewed, but never the fat, even if it is quite thick, but this is made absolutely dry and all bleeding is arrested. The skin is thoroughly cleansed and then washed with alcohol, care being exercised that no alcohol gets into the wound. The alcohol removes the fat from the surface of the skin, so that the plaster will adhere. Then sterilized zinc oxid plaster, half an inch wide, is cut in lengths of 3 inches; the skin edges are held together with one hand, while with the other the plaster strips are applied, a quarter of an inch apart, until the whole skin wound is accurately adjusted. The hands should not touch the adhesive surface of the plaster as

this will contaminate it. Zinc oxid plaster, 2½ inches wide, is then applied around the abdomen, directly on the skin and over the smaller strips of plaster. This must go well around the hips. Three or four such strips, or as many as are necessary, put snugly around the body, will hold the wound edges in apposition in spite of any coughing or vomiting that might take place. Ordinarily, no further attention is necessary for ten or twelve days, when the patient is ready to go home. By this time the plaster comes off easily and the patient does not complain, or only slightly. It can be soaked with alcohol, but the alcohol hurts more than removing the plaster without it. If the operation has been perfectly aseptic, only a small linear scar will be seen. If a little stitch abscess should form, the plaster can be taken off sooner, or part of it may be removed, but as a rule it is better to keep it on as long as possible. For safety's sake, fresh plaster is applied when the patient is sent home; this can be removed in from three to four weeks.

A trial of this method will demonstrate what a simple thing it is. The skin incision can be closed more quickly than by sewing it, no matter what suture material is used. I have used this method in operations for appendicitis, even if drainage is necessary, in cases of drainage of the gallbladder, and of course in all kinds of pelvic operations. In all cases rigid aseptic precautions must be taken.

1447 David Whitney Building.

ROENTGENOGRAPHY OF COLLES' FRACTURE

SINCLAIR TOUSEY, M.D., NEW YORK

We have all been told that the roentgen ray has shown that many cases of supposed sprain about the wrist were really fractures. But it is not so generally known that the normal roentgenographic appearance may be misinterpreted as a fracture of the lower extremity of the radius. In a roentgenogram made with the hand and forearm prone on the plate, there is a natural line extending across the radius from the articular surface obliquely upward and radially to a point on the *radial* border of the radius, about an inch above the articular surface. Normally no displacement, of course, is visible; but in this position it might be scarcely perceptible anyway. And the absence of visible displacement in a lateral roentgenogram causes the diagnosis of a "slight fracture" to be made. This mistake can be avoided by making roentgenograms of the two wrists in the same prone position. A line

Fig. 1.—Both wrists prone on plate.

in the injured wrist which is the exact duplicate of a line in the uninjured wrist will not easily be mistaken for a fracture.

The technic that I employ involves the making of three roentgenograms, each measuring 8 by 10 inches, and each including the two wrists in identical positions.

The first roentgenogram has already been described. It shows both wrists prone on the plate.

The second roentgenogram is a lateral one showing both wrists viewed from such a direction that the dorsal border of the radius and, indeed, usually the entire radius, is seen free from the image of the ulna.

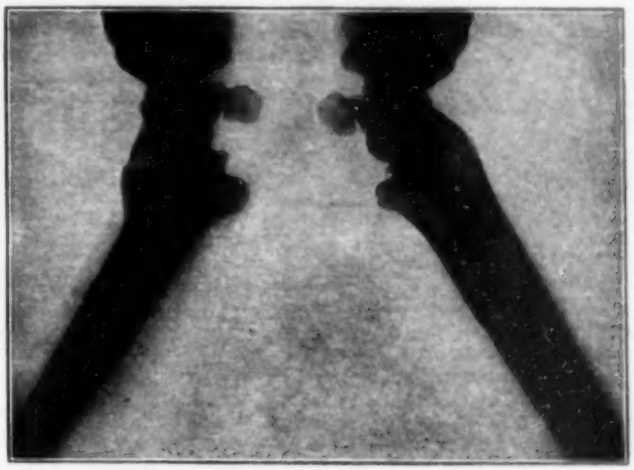


Fig. 2.—Lateral view: dorsal border of radius free from image of ulna.

Fig. 3.—Lateral view: palmar border of radius free from image of ulna.

The third roentgenogram is a lateral one showing both wrists viewed from such a direction that the palmar border of the radius is seen free from the image of the ulna. In this position, however, the image of a considerable part of the lower extremity of the radius overlaps that of the ulna.

In some actual cases of Colles' fracture there is marked deformity which is unmistakable even without the roentgen ray and in such cases all three of these roentgenograms furnish a striking picture of the displacement.

In other cases there is a certain amount of deformity persisting after supposed reduction; and, if not discovered in time to be successfully treated, this forms a permanent disfigurement and a very real disability. The case used to illustrate this article was of this type. In spite of other surgical and roentgenographic opinions that the fracture had been successfully reduced, Dr. John M. Keyes thought that the deformity and disability required fuller roentgenographic study.

The prone roentgenogram would not show any dorsopalmar displacement, but it does show slight displacement in what might be called a horizontal plane.

The second roentgenogram shows very distinct dorsal displacement or bending dorsally of the lower fragment of the radius, with evident impaction or driving of the harder upper fragment into the more cancellous lower fragment. The

bending being toward the dorsum is much more clearly shown in this roentgenogram, which shows the dorsal border of the radius, than in the third roentgenogram.

The third roentgenogram shows distinctly the palmar border of the radius where, in this case, there is only slight deformity, and the dorsal border is obscured by the shadow of the ulna. It is required, however, to obviate the overlooking of any displacement which might in some cases not show so well in the first or second roentgenograms.

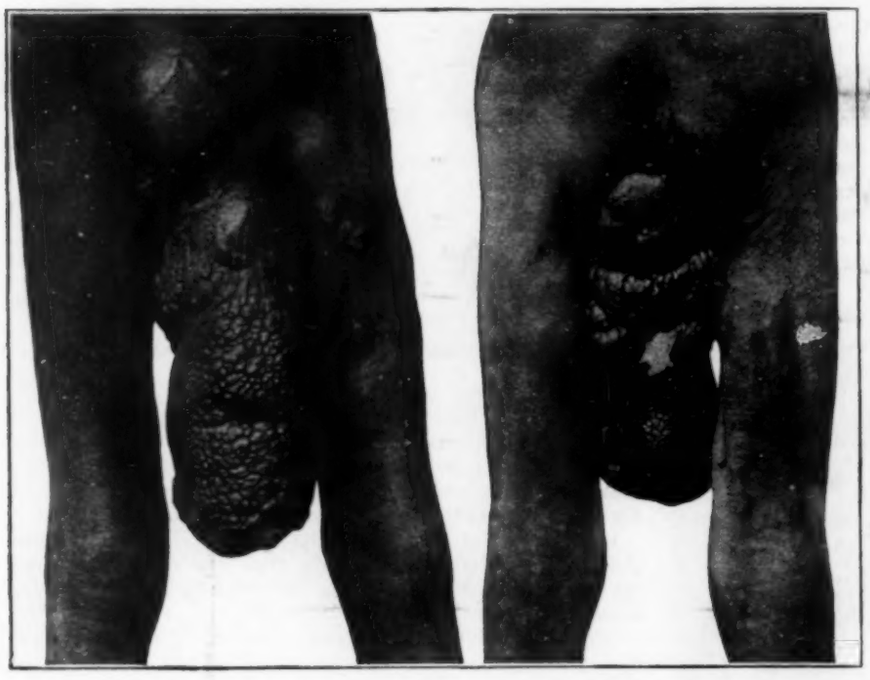
850 Seventh Avenue.

SYPHILITIC HYPERPLASIA OF PENIS AND SCROTUM

Leon Rosenwald, M.D., Kansas City, Mo.

True elephantiasis does not occur in this part of the world. Pseudo-elephantiasis or esthiomene is fairly frequent in the colored race. I have seen numerous cases of labial involvement. In all of these subjects syphilis is such an important factor that the older terms have been discarded and now "syphilitic hyperplasia" is used to describe the pathologic condition. Because of the unusual extent of the process, the subjoined case warrants a report:

W. T., a colored man, aged 52, admitted to the Kansas City General Hospital (colored division), Nov. 5, 1919, a laborer in one of the packing houses, did not remember of having had any of the diseases usual in childhood, but had pneumonia in 1915, and again in 1918. In 1888 he had a primary sclerosis, for which he was treated for about one month. He had gonorrhea in 1889. In 1903 he had an acute retention of urine, and the bladder was drained by the perineal route. A stricture was also cut at this time. The perineal opening never healed, and the patient had been passing most of the urine through the fistulous tract. In 1907 he



Anterior and posterior aspects of hyperplastic parts.

was struck in the perineum with a brush used for scrubbing cattle. The penis and scrotum became enormously swollen, but the swelling subsided without any operative measures. Within a short time, however, he noticed that the glans penis had become hard and swollen, with some induration and swelling on the scrotum. Gradually this swelling and induration spread over the entire penis and scrotum till about 1915, when the process seemed to come to a standstill. From that time on he had not noticed much additional growth.

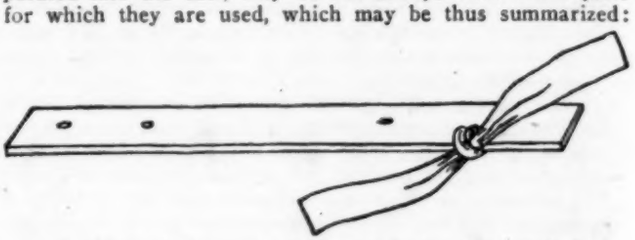
The skin over the penis and scrotum was marked by deep cross furrows, and could easily be taken for elephant's hide. The patient refused any treatment. We were unable to get tissue for microscopic examination. He permitted the pathologist to draw some blood, which proved Wassermann positive.

326 Argyle Building.

A METHOD FOR SOLIDLY INCORPORATING METAL REINFORCEMENTS IN PLASTER CASTS

Wilton H. Robinson, M.D., Pittsburgh

The advantage of reinforcement with metal strips in certain casts is quite obvious; but unless they are solidly incorporated into the cast, they do not always fulfil the objects for which they are used, which may be thus summarized:



A simple reinforcement with one anchoring strip attached.

1. To prevent cracking at a strong joint, as spica of the hip. 2. To connect two sections of a cast, as the divided cast sometimes used in compound fractures of the leg. 3. To help support a heavy part, as abduction cast of the upper arm and shoulder. In addition, the jury mast may be mentioned. While hardly classed as a reinforcement, it is included because the part incorporated in the plaster may be very advantageously treated as here described.

It is not unusual, because of the formation of a plane of cleavage in a cast, for a reinforcement to slip in the folds of the plaster bandage just a little. This is especially common in the divided cast of the leg, in which slight rotation of the upper section of the cast in relation to the lower often occurs.

This slight slipping of a metal addition to a cast may either make the cast of no value or convert it into a very harmful appliance, but the slipping may be prevented by the method described.

The metal to be incorporated, of proper size and strength to meet the indications, is bored, at 1½ to 2 inch intervals, with small holes, through which are threaded 8 inch lengths of muslin bandage which are tied tightly at about their middle. When the cast is applied to about one-half the thickness it is to be, the metal, with the attached strips of bandage, is dampened in the water in which the plaster bandages are soaked, some of the plaster cream from the bottom of the pan being rubbed into the meshes of the bandage; it is now laid on the uncompleted cast in as close contact as possible at all points; that is, it should be shaped to the contour either by the hands, bending irons or a vise. The application of the plaster bandage is now continued to completion, care being taken to turn ends and corners of the strips of the bandage down and over succeeding layers of plaster bandage so as to obtain the maximum amount of "tangling" between the two, which will make for a more solid anchoring of the metal.

Of course, when it is not possible to drill holes in the metal, pieces of bandage may be tightly tied on, and the whole thing incorporated in the same way, though such procedure does not prevent motion in the long axis of a metal strip.

AN IMPROVED CONCENTRATION TECHNIC FOR THE DETECTION OF TUBERCLE BACILLI IN SPUTUM *

THEOPHILE RAPHAEL, A.M., M.D., AND NINA ELDRIDGE, NEW YORK

The possibility of refinement in routine sputum analysis is of importance, particularly as it affects those handling both frank and suspected cases of tuberculosis. We have investigated the practicability of a technic modification which suggested itself in connection with the concentration procedure reported by Greenfield and Anderson[1] in September, 1919, and, recently, ingeniously adapted to institutional routine by Woolley.[2]

According to the technic of Greenfield and Anderson, 5 c.c. of sputum, to which two volumes of 1 per cent. sodium carbonate in 1 per cent. phenol have been added, are shaken in a centrifuge tube and incubated for from twelve to twenty-four hours. The material is then centrifuged for about fifteen minutes, the supernatant fluid decanted, and smears made from the sediment and specifically stained.

While we were working with this technic, with a view to its adoption as a routine measure for Sea View Hospital, it occurred to us that greater refinement and marked time saving might possibly be afforded, if a short period of autoclaving was substituted for the comparatively lengthy incubation of the original method. The value of simple autoclaving is well known,[3] and there was no reason to suppose that even better results might not be obtained through the addition of the sodium carbonate-phenol mixture. No original is claimed for this modification, although search of the literature has not disclosed evidence of its previous use.

PROCEDURE

The method of staining employed throughout was essentially the classic Ziehl-Neelsen method, which, for the purpose of greater precision, may thus be given in detail: The slides were steamed in carbolfuchsin for three minutes, decolorized in 5 per cent. acid (hydrochloric) alcohol and 65 per cent. alcohol, and counterstained in an aqueous solution of methylene blue for one minute. They were then washed in tap water and dried.

The slides were examined independently by two observers. At least forty fields were examined, in each case, before a diagnosis of negative was returned, and, in scoring, it was found most practicable to utilize our routine laboratory scale: From 1 to 5 bacilli per slide = (f)ew; from 6 to 15 bacilli per slide = (m)oderate; 16 + bacilli per slide = (n)umerous.

In the first place, to demonstrate the superiority of simple autoclaving (twenty minutes at 15 pounds pressure) over the direct smear method, there were examined thirty-three sputum specimens from patients referred to this hospital as presumably tuberculous, but whose sputums had not been previously examined in this laboratory. Of these thirty-three cases, there were found six in favor of the simple autoclaving method, or roughly, for the purpose of gross comparison, a percentage of 18.1.

In the same manner, the original Greenfield-Anderson technic was tested against the direct smear procedure, with forty similar cases. This test showed a difference of 60 per cent. in favor of the Greenfield-Anderson technic.

On the basis of a series of forty-six similar cases, the suggested autoclave modification of the Greenfield-Anderson technic showed a superiority of 32.5 per cent. against the antiformin method, which, in turn, scored 25.5 per cent. better than the direct smear method, in forty-seven cases.

The exact technic employed by us in the autoclave modification of the Greenfield-Anderson procedure was as follows: Five c.c. of sputum, to which had been added two volumes of 1 per cent. sodium carbonate in 1 per cent. phenol, were shaken for ten minutes and then autoclaved for twenty minutes at 15 pounds pressure. Following this, the material was centrifuged for ten minutes, the supernatant fluid decanted, and smears made and stained from the sediment.

The antiformin procedure employed by us was as follows: The reagent consisted of equal parts of 15 per cent. sodium hydroxid and Labarraque's solution. Five parts of sputum with one part of reagent were shaken for fifteen minutes, incubated for one hour, and then centrifuged for fifteen minutes. The supernatant fluid was decanted and the sediment washed by centrifuging for fifteen minutes with distilled water. Smears were made and stained from the sediment.

In the comparison between the Greenfield-Anderson technic and the suggested modification of that procedure, in order to make the test more rigid, only such sputums were employed as had been previously found negative to the simple autoclaving technic, which, as has been shown, was found to be 18.1 per cent. more delicate than the direct smear method. The added rigidity of this routine may be inferred from the fact that out of fifty-three such cases, the suggested autoclave modification of the Greenfield-Anderson technic showed a superiority of only 9.4 per cent. over the antiformin procedure, as compared to a superiority of 32.5 per cent. in forty-six cases which had not previously been found negative, as already mentioned. Fifty-one cases of the latter type were very carefully examined in the manner indicated above, both in accordance with the original Greenfield-Anderson procedure and with the suggested autoclave modification. This comparison showed a difference of 2 per cent. in favor of the modification method, not including one case which was discarded because of disagreement between the observers, although the disagreement was in favor of the modification.

As an example of the hydrocarbon principle in sputum concentration, the gasolene method of Krauss and Fleming[4] was investigated. This procedure was not tested very extensively, as, from the outset, the technic seemed hardly of sufficient simplicity or practicability to warrant adoption as a routine laboratory procedure, particularly for laboratories in which a great number of cases are being handled. However, on the basis of ten not previously determined specimens, the direct smear procedure showed a superiority of 30 per cent. over this gasolene technic.

COMMENT

It is evident that the procedure of simple autoclaving is superior to the direct method, although it is not quite so efficient as the antiformin procedure. The suggested autoclave modification of the Greenfield-Anderson technic seems distinctly superior to the antiformin procedure, which may be regarded as generally standard, and which, until recently, appears to have been about the best of the concentration methods. In addition, however, the autoclave modification is much more simple and convenient for laboratory routine, the reagent being much more readily prepared and the manipulation minimal. As regards the original Greenfield-Anderson technic, although there is no doubt as to its great efficiency and reliability, yet it is obvious that the autoclave modification of this technic is at least as good, and indeed, on the basis of the actual figures of our test, even somewhat better. In addition, the autoclave modification need consume but fifty minutes at the most, while the original procedure requires at least fifteen to twenty-four hours, an element of considerable importance when time is a factor, as it so frequently is, particularly with patients coming only for examination and diagnosis. Besides, in the modification, there is no doubt as to the sterility of the material, while in the original procedure, Greenfield and Anderson do not seem to have attained this completely.

SUMMARY

On the basis of our tests, it appears that:

1. The Greenfield-Anderson incubation technic and the suggested autoclave modification of this procedure are definitely superior to the direct smear, gasolene, simple autoclave, and antiformin procedures, for the preparation of suspectedly tuberculous sputums.
2. The autoclave modification of the Greenfield-Anderson technic is slightly more delicate than the original method.
3. Further advantages of the autoclave modification over the original technic are (*a*) great time saving and (*b*) assurance of sterility.

* From the Laboratory, Sea View Hospital.

1. Greenfield, J. G., and Anderson, J.: Lancet **2**: 423 (Sept. 6) 1919.
2. Woolley, Stanley: A Simple Technic for Concentrating Sputum, J. A. M. A. **74**: 525 (Feb. 21) 1920.
3. Gilbert: Manual of Procedure for the Clinical Laboratory, Ann Arbor, 1919, p. 14.
4. Krauss, W., and Fleming, J. S.: J. Lab. & Clin. Med. **1**: 919 (Sept.) 1916.

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SATURDAY, JULY 24, 1920

CHEMOTHERAPY OF TUBERCULOSIS, WITH PARTICULAR REFERENCE TO THE "CERIUM SALTS TREATMENT"

Directly after his discovery of the tubercle bacillus, Koch made numerous attempts to find chemical agents that might be used to cure tuberculosis,[1] with the tentative assumption that substances which prevent growth of tubercle bacilli in cultures could perhaps exert the same effect on these organisms in the animal body. He found numerous substances that were capable of inhibiting growth of tubercle bacilli in culture mediums to which they had been added in great dilutions, especially a gold cyanid compound; but, not being given to self-deception, he stated that "all these substances remain completely inactive when tested upon the tuberculous animal." His attention was then diverted to the study of tuberculin as a more hopeful agent, and there followed a period of fifteen years during which little was done toward seeking for chemical agents valuable in the treatment of tuberculosis, except for a little inaccurate and valueless work with compounds related to creosote and guaiacol. These substances came to have a widespread reputation as tuberculocidal agents without any one's taking the trouble to ascertain definitely whether they really had any particular capacity to injure tubercle bacilli in the test tube, the tuberculous animal or the consumptive patient, although the German manufacturing chemists did splendid work in providing innumerable derivatives, each with a new copyrighted name and a patented process of manufacture.

With Ehrlich's brilliant achievements, not only with the widely known trypanicidal and antisyphilitic compounds, but also with his careful but less known studies on "semispecific chemical disinfectants,"[2] a new interest arose in the possibility of extending this method of procedure into the field of tuberculosis therapy. Since then numerous substances have been brought forward as cures of tuberculosis under the impressive caption of "chemotherapeutic agents," and with series of a score or a hundred clinical cases in which "favorable results" have been observed. Copper has had a particularly enthusiastic boom. Gräfin von Linden and her followers in Germany projected a "complex lecithin-copper compound" of unannounced composition but of well-advertised manufacture, with the usual favorable clinical results, especially in lupus and localized nonpulmonary lesions, as is generally the case.[3] From the other side of the world, in Tokyo, came another copper cure, the cyanocuprol of Koga, while copper arsphenamin and other copper compounds sprang into the literature until the war turned attention into other channels. It is now eight years since von Linden's copper-lecithin compound made its appearance, but in the tide of German literature that is now beginning to trickle once more toward our shores, we do not notice any considerable number of references to the use of this compound, although much is said about the alarming spread of tuberculosis in the Teutonic countries. Cyanocuprol is still on the market, but the Japanese continue to advance new compounds, sometimes of copper, sometimes of gold and sometimes of neither, for the cure of tuberculosis, so apparently Koga's discovery has not settled the tuberculosis problem in Japan.

The trouble with the chemotherapy of tuberculosis is that it is too difficult, and especially it is too slow. Chemotherapeutic research is built up in slow stages at the best, but the slowness and the difficulty are augmented many times when the tubercle bacillus is the subject. First comes the determining of the capacity of compounds to inhibit growth of the tubercle bacillus in cultures—and the tubercle bacillus is not the easiest of organisms to handle, especially in incompletely equipped laboratories. Then must be determined what the capacity is to kill bacilli, which requires most meticulous technic, and control by inoculating scores or hundreds of guinea-pigs, which must be watched and studied for months or even for a year in each experiment. Then must follow experimental therapeutics on animals, which means daily work with further hundreds of animals, all under the most careful technic and control. Such work as this is by far the most difficult and expensive sort of chemotherapeutic study yet undertaken, requiring not only abundant equipment and resources, but also a cooperating staff of most highly trained bacteriologists, pathologists and chemists, and especially a highly critical direction. It cannot be done by casual investigators in a few months' time with an ordinary laboratory equipment.

We have made this somewhat lengthy statement in lieu of a more extended discussion of recent reports concerning the treatment of tuberculosis by the so-

1. Lewis, P. A.: On the Possibility of Developing an Experimental Chemotherapy of Tuberculosis, Bull. Johns Hopkins Hosp. **28**: 120 (March) 1917.

2. Bechhold and Ehrlich: Ztschr. f. physiol. Chem. **47**: 173, 1906. Bechhold: Ztschr. f. Hyg. u. Infektionskr. **64**: 113, 1909.

3. Corper, H. J.; DeWitt, Lydia M., and Wells, H. G.: The Effect of Copper on Experimental Tuberculous Lesions, J. A. M. A. **60**: 867 (March 22) 1913.

called cerium earth salts, which, happening to have been taken up by the daily papers, have achieved a notoriety and publicity which is undoubtedly far in excess of the desires of the French physicians who have introduced the procedure. Such reports as have been published are at hand,[4] and the sum and substance of the matter seems to be about this: A few observations of the inhibitory activity of salts of cerium and some other rare earth metals (especially samarium, neodymium and praseodymium) were made on the growth of tubercle bacilli in cultures, possibly because they are rare substances and had not yet been shown to be valueless in tuberculosis. According to the figures given, the inhibitory action of these salts is not at all high, about one to five parts per thousand being required to prevent growth, which may be contrasted with gold chlorid, which inhibits when in dilution of 1:2,000,000, and yet which in the careful studies of DeWitt,[5] as in the earlier observations of Koch, could not be made to show any favorable influence on tuberculosis in animals. Innumerable substances have a more powerful inhibitory effect on tubercle bacilli than these rare earth salts. Much is made of the reduction of the fat content of the tubercle bacilli grown on mediums containing these salts, the fat being reduced, it is said, from 25 to 40 per cent. to 16 to 22 per cent.; but we know of no evidence that such variations in fat content have any significant relation to the virulence of the tubercle bacillus for man. As far as we can learn, no attempts were made to determine the capacity of the salts of the rare earths to kill tubercle bacilli, and there is no report made of any systematic study of their effects on experimental tuberculosis in animals, in which alone can accurate controls be made. We merely have the statement that on the basis of this slight inhibitory effect in cultures, and, what is perhaps more important, a capacity to cause a mononucleosis, a small number of cases of human tuberculosis have been treated with cerium salts by repeated intravenous injections. These cases, less than a hundred in the reports published, have now been observed at most a few months, and it is believed that cutaneous, glandular and chronic afebrile tuberculous pulmonary lesions have been improved, and that patients with active pulmonary tuberculosis have been made worse. There is no mention of control patients given the same general care without the salts. Possibly cerium earth salts help the tuberculous. The evidence so far presented, however, is nothing to get excited about. Many other agencies, now forgotten, have had as much and more reported in their favor at this stage of their history. We cannot find support for the statement of Rénon: "The results obtained by Grenet and Drouin with the sulphate of the cerium earths are certainly the most scientific yet realized in the chemotherapy of tuberculosis." We find much more support for the closing statement of Paul Lewis' address: "Certainly it will be a most unfortunate thing for the progress of tuberculosis research if every substance showing interesting properties in the laboratory is immediately rushed to the clinic regardless of consequences. In this situation patience is to be taken more than usually as an evidence of virtue."

4. Grenet, H., and Drouin, H.: Traitement des infections tuberculeuses chroniques par les sels de terres cériques. Bull. et mém. Soc. méd. d. Hôp. de Paris **44**: 589 (May 7) 1920. Rénon, M. L.: Ibid., p. 602. Esnault, M., and Brou, M.: Ibid., p. 606; abstr. J. A. M. A., this issue, p. 276.

5. De Witt, L. M.: J. Infect. Dis. **23**: 426 (Nov.) 1918.

FACTORS FACILITATING CIRCULATORY SHOCK

The numerous investigations of circulatory shock have at length made it clear that hemorrhage is not invariably a cause of the condition. Under certain circumstances oligemia may arise, even without loss of blood from the body. There is a diminution of the volume of blood in effective circulation which has been attributed to a loss of the normal tone of the capillary blood vessels, or to a morbid permeability of the capillary walls. A shocklike collapse of the circulation then follows the failure to maintain an effective blood volume or the analogous outcome of a loss of fluid from the vascular system.

The development of circulatory shock without actual bleeding has been demonstrated after extensive injury to tissues, especially to muscle. The recent evidence indicates that in this condition, sometimes denoted "secondary wound shock," an aseptic traumatic toxemia may occur, owing to the absorption of substances produced by the injury or liberated in the subsequent autolysis of the tissues involved. Thus, during the war Bayliss and Cannon demonstrated that when the thigh muscles of an animal were crushed under anesthesia a progressive fall of blood pressure with other symptoms of shock developed. If the blood vessels to the leg were clamped during the injury, the shock effect did not ensue until the clamps were removed. Bayliss [1] has insisted on this account that the circulatory collapse was due to the absorption of some toxic substance produced in the injured cells. He believes that this conclusion was confirmed by the fact that massage of the injured parts brought about an increase in the rate of fall of the blood pressure. The latter result is of interest in view of the clinical experience of the importance of keeping injured limbs as immobile as possible, especially when fractured. Surgeons have found that application of a tourniquet centrally to the injured part is followed by marked improvement. Similar results have been obtained by rapid excision of the damaged tissues.

It was a decided advantage for the investigation of circulatory shock when Dale, Richards and Laid-

1. Bayliss, W. M.: The Action of Gum Acacia on the Circulation, J. Pharmacol. & Exper. Therap. **15**: 29 (March) 1920.

law [2] found that a condition decidedly similar to it could be produced by the administration of histamin in suitable doses. Apparently it produces throughout the whole circulatory system a group of phenomena which are recognized as inflammation when they occur locally. Although it is easily conceivable that histamin might arise from the amino-acid histidin, which is an integral complex of the tissue proteins, there is no proof that histamin is in fact the substance responsible for the capillary damage and altered permeability in traumatic toxemia. For the present it represents merely a convenient agent for the experimental production of shock through chemical influence on the blood vessels. Dale [3] has been further enabled by it to study what influences may have an adjuvant effect in the genesis of shock following traumatic toxemia. Exhaustion, pain, cold, thirst, hemorrhage and anesthetics have all been alleged to play some part in the incidence of the circulatory collapse. Dale has correspondingly found that some of these factors which are suitable for experimental investigation actually lower in a striking degree the normal resistance to the poisonous histamin. This is particularly true of a large but not in itself serious hemorrhage. It is likewise true of anesthetics like ether, in contrast with nitrous oxid and oxygen. Dale regards it as probable that the resistance of the otherwise perfectly healthy subject to products of tissue injury would similarly be high, and it is reasonable to attribute the demonstrated danger of chloroform or ether to the severely wounded man, and the relative safety of nitrous oxid, to the much greater effect of the former anesthetics, as shown in these experiments, in depressing the normal resistance to this type of toxemia. Furthermore, it seems possible to Dale that the greater safety in civilian operations, shown by Crile and others, of the combination of local anesthesia with nitrous oxid and oxygen, as compared with prolonged anesthesia with ether or chloroform, may find its true explanation along the same lines. Hence Dale thinks that in cases in which bacterial or other toxemia is present, chloroform and ether should be avoided whenever possible.

If we regard the shock produced in operations as attributable to a combination of such factors as toxemia from injured tissues, hemorrhage and anesthetics, it is interesting to learn that the solution of gum acacia in saline as advocated by Bayliss [4] in particular gives promise of combating many of the difficulties encountered. It has no chemical or drug-like action and can be used in large quantities; and owing to the osmotic pressure of the colloid gum, which cannot readily escape from the blood vessels, fluid which would otherwise disappear is retained within the blood vessels. In the words of Bayliss [1] the gum-saline solutions can be used with benefit when the blood volume is reduced, owing to removal of a part from effective circulation by stagnation in the capillaries, as happens in wound shock, traumatic toxemia, and probably in other similar conditions. In such cases, its primary object is to maintain a normal circulation until the toxic products are eliminated from the blood, while the blood out of circulation is restored to use. When fluid has escaped from the blood, owing to capillaries becoming permeable to colloids, as in the action of tissue toxins, gum-saline restores the normal state, provided the morbid condition has not lasted too long. In the latter case, even transfusion of blood is of no avail.

2. Dale, H. H., and Richards, A. N.: J. Physiol. **52**: 110 (July) 1918. Dale, H. H., and Laidlaw, P. P.: J. Physiol. **52**: 355 (March) 1919. Dale, H. H.; Laidlaw, P. P., and Richards, A. H.: Traumatic Toxemia as a Factor in Shock, Special Report Series 26, Medical Research Committee, London, 1919.

3. Dale, H. H.: Conditions Which Are Conducive to the Production of Shock by Histamine, Brit. J. Exper. Pathol. **1**: 103 (April) 1920.

4. Bayliss, W. M.: Intravenous Injection in Wound Shock, New York, Longmans, Green & Co., 1919.

SCIENCE IN THE MEDICAL CLINIC

The possibility of making accurate observations at the bedside on the basal metabolism of patients represents a distinct step in the direction of progress in clinical medicine. To one who has followed many of the "crudely unscientific" performances in the consideration of alleged disorders of the endocrine glands, the institution of precise diagnostic measurements and analyses in place of the guesswork of former years is truly significant. The usefulness of scientifically dependable estimations of bodily functions looms up large. Only a short time ago a distinguished physiologist felt justified in remarking ironically that when several unknown factors may be interacting, as happens in the study of the internal secretions, it is pleasant to give the fancy full play, and this is also a perfectly harmless occupation provided such mental activity does not develop into hallucination.[1] Four years ago, Du Bois' review [2] of the few carefully investigated cases of the metabolism in thyroid disease revealed the possibilities in the way of more exact differentiation between true hyperthyroidism, hypothyroidism, and ill defined disorders exhibiting related symptoms. The stimulation or depression of metabolism has become open to more precise clinical interpretation. A knowledge of the basal metabolism rate in each patient has acquired a unique value in thyroid disorder because, to quote a recent writer, it gives a very accurate mathematical index of the degree of functional activity of the gland.

Among the hospitals in which the determination of basal metabolism in suitable cases has now become a routine procedure, the Mayo Clinic has afforded the largest number of records of its possible usefulness

1. Lusk, Graham: The Science of Nutrition, Philadelphia, W. B. Saunders Company, 1917, p. 439.

2. Du Bois, E. F.: Metabolism in Exophthalmic Goiter, Arch. Int. Med. **17**: 915 (June) 1916.

in thyroid disease. In a summary of the observations on several hundreds of patients, published by Sandiford,[3] the success of types of remedial treatment for exophthalmic goiter is evaluated by measurements of basal metabolic rates. In 182 cases before any treatment was instituted, the average rate was 51 per cent. above normal, with an average pulse rate of 115. A week's complete rest reduced the rates in selected cases to + 46 per cent. and 108, respectively. The results of single and multiple ligations could be similarly ascertained and the most advisable steps in treatment pursued on the basis of accurate data. In myxedema the metabolic rate may fall to 40 per cent. below normal. As there are few known disorders in which constant and distinct variations from the normal in the basal metabolic rate have been demonstrated, the significance of the findings in thyroid disorders becomes accentuated. The differential diagnosis of neuroses simulating hyperthyroidism or hypothyroidism becomes more easily possible because no definite instance of an altered rate has been found in that group of cases designated as neurasthenia or chronic nervous exhaustion. The clinical application of the estimation of the rate of basal metabolism is a direct outcome of the work of the scientific laboratory; and yet there still are those who speak contemptuously of the value of laboratory investigations in what they delight to call "practical medicine."

Current Comment

HAMSTRINGING THE FOOD AND DRUGS ACT

During the last few years the people of the United States have been given a very material amount of protection against those swindlers who sophisticate the foodstuffs and drug supplies of the country. Especially good work has been done in obtaining convictions against "patent medicine" fakers who have made false and fraudulent claims for their nostrums. This protection has been given through the enforcement of the federal Food and Drugs Act. The administration of this law rests with the Department of Agriculture, which, acting through its Bureau of Chemistry, collects evidence and lays the groundwork for the legal machinery of the government to proceed against the offender. The activity of the Bureau of Chemistry of the Department of Agriculture has, of course, aroused the strongest antagonism on the part of the nostrum interests. These interests may well rejoice in the recent action of Congress in cutting down the appropriations for the Department of Agriculture. Even under the appropriation given for the last fiscal year, which ended June 30, 1920, the department was greatly hampered in its work of enforcing the Food and Drugs Act. Under the plea of economy, Congress has reduced the appropriation for the enforcement of this act by thirty thousand dollars. The *Oil, Paint and Drug Reporter*, a high-grade and conservative publication, well states the fact, in commenting on this disgraceful condition of affairs, when it says:

> Under the reduced amount provided for next year, it will be impossible to supervise the regulation of the Food and Drugs Act as it should be supervised. This portends a rich harvest for those who misbrand and adulterate medicinal, pharmaceutical, disinfectant and other preparations. The vast public, which daily purchases and consumes these products, will be the chief sufferer. At a time when the act requires enforcement of the most rigorous nature the Congress has succeeded in hamstringing it.

At a time, then, when in all lines of industry the spirit of exploitation is rife, Congress, under the specious plea of economy, practically nullifies the protective power of one of the most useful pieces of federal legislation ever enacted.

THE NEWER QUACKERY

The large auditorium is filled with beautifully gowned women. There is a subdued hum of chatter and light laughter. Silently the magnificent maroon velour curtains are parted, as though by some invisible genii. The lights become dim. Then there walks—almost glides—on the stage a man faultlessly attired, his lustrous hair brushed back from a pallid countenance. The audience is hushed. He begins to speak in sympathetic tones pouring forth well rounded but meaningless phrases about the perfection of ideality, happiness through the sacrifice of the excentric ego, the attainment to Nirvana through immolation on the pyre of ideal scientific introspection. He promises youth and health to those who will believe and study. And the audience—women, occupiers of one room kitchenettes, suffering with the ennui of idleness, faces elaborated with artifices in attempt to simulate the long lost buoyancy of youth—sigh happily as they dream of the mirage he brings up before them. Quiet ushers pass along the aisles, and with sibilant whispers distribute cards on which arrangements may be made for personal consultation with the "professor." Thus works the newer quackery—health and happiness through commercialized psychology.

THE HOSPITAL LIBRARY

> *To the Editor:*—Will you kindly send us a list of books, with approximate cost, necessary to furnish an up-to-date library for our interns? SUPT.

This query, from the superintendent of a large hospital, using a considerable number of interns, is not the first request for such information that has been received. It is a practical, timely problem, and THE JOURNAL will be glad to help in its solution. Hence, suggestions are asked for such a library. Different institutions will have different requirements: some will be able to buy only fifty books, others more, some possibly a less number. Let the suggestions cover thirty, fifty, seventy-five and one hundred books. Naturally those who are kind enough to take

3. Sandiford, Irene: The Basal Metabolic Rate in Exophthalmic Goiter (1,917 Cases), with a Brief Description of the Technic Used at the Mayo Clinic, Endocrinology 4:71 (Jan.-March) 1920. Boothby, W. M., and Sandiford, Irene: Technic of Basal Metabolism Rate Determinations, Philadelphia, W. B. Saunders Company, 1920.

the trouble to respond will give the matter careful thought before making the selection. Institutions having satisfactory libraries can help by sending us a list of books that they have found most desirable. It may be that it will be possible to tabulate the replies in such a way that the composite information will be of advantage to many institutions as well as to young physicians who are beginning practice.

THE EASIEST WAY

A gynecologist was speaking. "No," he said, "I haven't taken out a permit. In twenty years of practice I have yet to find a case in which I could be sure whisky was beneficial. Not having a permit makes it easy for me to turn down requests from my intimate friends and patients." Then the opinions of a well-known internist, a pediatrician, a surgeon, and some general practitioners were sought. None of them, with the exception of one of the latter, had taken out a permit. He had given ten prescriptions in three months, and he admitted—not for publication—that in nine instances the prescription was written at the patient's request, and in the tenth something else would have served. Don't subject yourself to temptation; don't hurt the feelings of your patient or of a very particular friend by refusing to write a "prescription" when he pleads for one. Have a good excuse for not doing so. The easiest way is not to have a "permit," much less a book of blank prescriptions.

WHAT CONSTITUTES AN OVERSUPPLY OF PHYSICIANS

Our Berlin letter this week is devoted largely to a discussion of conditions in the medical profession in Germany. Incidentally, it is claimed by our correspondent that the medical profession is seriously overcrowded; statistics are quoted to show there is one physician for every 1,920 persons. In reading this, one is led to wonder how our correspondent would regard conditions in this country, where there is one physician to less than 750 population.

Medical Journals Facing Crisis.—The *Policlinico* of Rome states that in Italy all the medical journals are encountering serious difficulties from the scarcity and high price of paper and of labor, etc. Some of the journals have had to merge and others have raised their subscription price. A conference of editors and publishers of scientific and other journals was held recently at Rome, and a group of physician members of the national legislature have appealed to the minister of public instruction on behalf of the medical journals. In France, the *Presse médicale* and some of the other medical journals have raised their price. The *Presse médicale* is now 40 francs, instead of 25 francs as last year. In Belgium, the two leading medical weeklies are now published by the same firm, to save expense. The *Semana médica* of Buenos Aires has also announced that its subscription price is to be raised, and in Germany the four leading medical weeklies have also raised their prices. Subscription to the *Deutsche medizinische Wochenschrift*, for example, which was in Germany 24 marks in 1915 and 34 in 1919, is now 80 marks. For foreign countries the subscription was 32 marks in 1915 and 42 marks in 1919, but is now stated for the United States to be $5 (plus postage). The price for different countries varies with the rate of exchange at present.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARKANSAS

Colored Physicians Organize.—Colored physicians and dentists of Mississippi and Crittenden counties met June 25 at Blytheville and organized the Northeastern Arkansas Medical Association. They elected the following officers: president, Dr. E. L. Fern, Osceola; secretary, Dr. G. W. Ezell, Blytheville; treasurer, Dr. Benjamin E. Roberts, Plymouth, and corresponding secretary, Dr. Thornton J. Meacham, Turrell.

ILLINOIS

Chicago

Physician Adjudged Insane.—Dr. Edmond R. Moras, formerly a practitioner of Chicago, but now said to be a manufacturer of proprietary medicines in Highland Park, was adjudged insane July 6.

Liquor Permits Revoked.—Capt. Hubert Howard, federal prohibition director, is said to have revoked the permits to prescribe liquor of Drs. George C. Busch and Max Gecht. The permits of four druggists were revoked at the same time.

Illegal Practitioner Fined.—Ernest W. Johnson, an assistant in the office of Dr. George C. Hunt, chief ambulance surgeon of the police department of Chicago, was arrested by the department of registration and education for practicing medicine without a license. On July 13, he entered a plea of guilty in the municipal court of Chicago and was fined $50 and costs.

Blunt Paroled.—Dr. Arthur L. Blunt, sentenced to imprisonment in the federal penitentiary, Fort Leavenworth, a year ago, on many charges of trafficking in drugs, is said to have been paroled and to be in Chicago. It is stated that the parole was granted on Dr. Blunt's promise to reveal the inside story of the graft alleged to have been paid to William H. Sage, former chief of the narcotic squad.

Reports from Midwives Lacking.—Of the 16,000 missing babies in Chicago, fifty were found July 14, when thirty midwives were called before a board of inquiry consisting of the assistant corporation counsel and Drs. Martin O. Heckard and Harold O. Jones. It was found that the majority of the midwives could not speak English, and that one midwife had failed to report nine births. One midwife who had been in this country seventeen years appeared before the board with an interpreter. The state board of registration has been requested by the board to serve notice on all midwives that unless they learn the English language within a year their permits will be revoked.

KENTUCKY

Railway Sanitation Code Adopted.—The state board of health has adopted the railroad sanitation code, devised by the U. S. Public Health Service and Railroad Administration. These regulations cover sanitation in trains, and waiting rooms, and deal with water supply, cleaning cars and stations and the consideration of a supersedence of routine disinfection of cars by frequent vacuum cleaning.

Assistant Examiner Appointed.—In accordance with the amended act passed by the last legislature, the state board of health has appointed assistant examiners from lists furnished by the various schools of medicine or cults. These examiners will conduct examinations in the special knowledge required by the various schools, the board continuing to examine in physiology, anatomy, pathology and chemistry. No appointments were made of assistant examiners representing the chiropractors as two lists were furnished the board by rival associations.

Hospital Beds in Louisville.—In a report made to the Jefferson County Medical Society by a special committee, Dr. Virgil E. Simpson, chairman, shows the city amply provided with beds for the sick poor, but very inadequately provided with beds for pay patients. The matter was referred to the health committee of the community council of which Dr. Morris Flexner is chairman. At a meeting just held attended by representatives of all the hospitals of the city, county

medical society, and welfare league, a committee was appointed to arrange ways and means for the establishment of an interdenominational hospital to care especially for the communicable diseases in persons of the city able to pay for care, as it was pointed out that the city hospital can care for these cases in the families of the poor.

MAINE

Speakers' Bureau Organized.—A speakers' bureau has been organized by the Maine Public Health Association with the object of promoting a more intelligent interest in problems of public health and welfare. About seventy-five prominent men and women of the state have enrolled in this bureau and will shortly be prepared to speak on these topics before chambers of commerce, rotary clubs, churches, community forums, women's clubs and other bodies of similar nature.

New State Officers.—At the annual meeting of the Maine Medical Association held in Augusta, June 29 and 30, the following officers were elected: president, Dr. Theodore E. Hardy, Waterville; vice presidents, Drs. George R. Campbell, Augusta; James McFadyen, Jr., Milo; Warren E. Kershner, Bath, and Forrest H. Badger, Winthrop; secretary-treasurer, Dr. Bertram L. Bryant, Bangor, and delegate to the American Medical Association, Dr. Addison S. Thayer, Waterville.

State Clinics for Physicians.—Under the auspices of the Maine Public Health Association, cooperating with the state department of health and the Maine Tuberculosis Sanatorium, arrangements have been made for a series of special lectures and laboratory demonstrations to be given at the Central Maine Sanatorium, Fairfield, beginning on August 2 and continuing through August 6. The program includes laboratory demonstrations; roentgen-ray demonstrations; physical diagnosis, particularly as this relates to pulmonary tuberculosis; differential diagnosis of tuberculosis; methods of diagnosis and treatment of venereal diseases; cancer control, and also the diagnosis of nontuberculous diseases of the chest and pathologic conditions of the upper respiratory tract.

MARYLAND

Summer Sanitation Planned.—A general discussion of plans for summer work, which include sanitation problems in Maryland summer resorts, was held at a meeting of deputy state health officers, July 17, at the office of the state board of health, Baltimore. The meeting was called by Dr. John S. Fulton, secretary of the board. The antityphoid fever campaign for the summer was one of the principal topics of discussion.

Personal.—Dr. Henry Arthur Mitchell, Elkton, who commanded the One Hundred and Thirteenth Field Hospital in France, is a patient at the university hospital where he expects to undergo an operation.——Dr. Charles L. Mattfeldt, Catonsville, health officer of the first district, while on a vacation trip, was taken suddenly ill at Niagara Falls and returned to his home from which he was later removed to St. Agnes' Hospital.

New Government Clinic Opened.—A second government night clinic similar to that in operation at Mercy Hospital has been opened at the university hospital. It is open to men Tuesday and Friday nights, and to women Monday and Thursday nights of each week. The new clinic will be directed by the same physicians that are in charge at Mercy Hospital and will follow the methods used there. The daily average of patients treated for social diseases at the latter institution is above twenty-five and some days as many as 150 apply. The staff of the clinic includes Dr. Anton G. Rytina, director; Dr. Wilford A. H. Councill, Dr. Harry M. Robinson and Dr. R. Gerard Willse.

Health Lessons Given to Children.—The children's playground association has broadened its activities this summer with the institution of health demonstrations. The demonstrations will be held at one of the playgrounds each day throughout the summer and will teach the fundamentals of health and care of the body. The Maryland Tuberculosis Association is cooperating, and has announced that a silver cup will be awarded to the playground making the highest number of "health points." Dr. Caroline B. Towles, Baltimore, will direct the educational classes for mothers, which will be held at the various recreational centers in the evenings.

MICHIGAN

State Takes Over Tuberculosis Clinics.—Arrangements have been completed by the Michigan Tuberculosis Association whereby the Michigan State Department of Health will take over the free tuberculosis clinic and the tuberculosis work among exservice men, hitherto conducted by the association.

Memorial Tablet for Nurse.—Friends of Julia E. Lide, formerly superintendent of the Emma L. Bixby Hospital, Adrian, who died in France, have subscribed to a fund for a memorial tablet to be placed in the hospital bearing this inscription:

In memory of Julia Lide, Red Cross Nurse, Superintendent, Emma L. Bixby Hospital, December 15, 1913, to May 28, 1917. Born April 9, 1871; Died, February 24, 1919. Buried at St. Nazaire, France, with and beside our soldier boys, with full military honors. This tablet placed by her friends.

Change in Distribution of Nursing Service.—The Detroit Department of Health in its *Weekly Health Review* for July 10 gives the following changes in the distribution of nursing service rendered in November and April: infant welfare, November, 29, and April, 44 per cent.; school, November, 26, and April, 19 per cent.; tuberculosis, November, 4.3, and April, 6 per cent.; contagion, November, 26, and April, 17 per cent.; and other service, November, 14, and April, 14 per cent. There was a material increase in infant welfare work and in tuberculosis, but in the work in schools and in contagious diseases there was a relative decrease.

MISSOURI

Public Health Street Car.—The first public health street car in the United States traveled the streets of St. Louis the last week in June standing at a designated location on successive days so that the people of the communities could visit it and learn the lessons taught therein regarding tuberculosis. The exhibit is being made by the Tuberculosis Society of St. Louis and more than 5,000 persons visited the car during the week.

Centennial Endowment Fund.—The alumni and friends of St. Louis University are undertaking a campaign to raise an endowment fund of $3,000,000. The centennial of the university was passed two years ago without formal recognition because of the World War. The university was founded in November, 1818, as the St. Louis Academy, and two years later expanded into the St. Louis College. In 1832, the college was given a charter as a university, and the faculty of medicine was attached in 1836. The principal immediate needs of the institution are $1,500,000 to provide an income of $75,000 a year, of which $60,000 is to be applied to the medical and dental schools; new laboratory and other betterments for the school of medicine at the cost of $250,000, and the future needs for the college of medicine and dentistry for new clinics and new buildings, $550,000. The rest of the $3,000,000 desired is for the institute of law, school of commerce and finance, and the college of arts and sciences.

NEW YORK

New Regulations to Prevent Anthrax.—The New York City Department of Health, June 16, adopted resolutions regulating the manufacture and sale of hair brushes and hair cloth. These resolutions forbid the use in the manufacture of hair brushes and hair cloth of any animal hair which has not been sterilized by a process prescribed or approved by the department of health. No person is permitted to bring into or offer for sale or sell or deliver in the city of New York any cloth or brush containing animal hair unless it shall have been so sterilized. These regulations provide that proper sterilization shall consist in boiling the hair in water maintained at a temperature of 212 F. for three hours or the placing of the hair in an autoclave in which a 10-inch vacuum is produced, and live steam then turned on and kept at 15 pounds pressure for a period of three hours.

New York City

Personal.—Dr. S. Josephine Baker has been made consultant in child hygiene for the U. S. Public Health Service and has received a commission as surgeon in the reserve of the U. S. Public Health Service.——Dr. Jacob Sobel has been designated assistant director of the Bureau of Child Hygiene of the Department of Health.——Miss Julia Stimson has been appointed superintendent of the Army Nurse Corps, with the relative rank of major.

Police Hospital for Brooklyn.—The committee appointed to consider the need for a police hospital has decided that the city should have such an institution. The purpose of such a hospital will be to provide medical, surgical and clinical treatment for the police force, active or retired, and

for their families. A campaign for $5,000,000 will be started shortly. It is estimated that the site will cost $800,000; the building and equipment, $2,500,000, and the rest will form an endowment to meet in part the cost of up-keep.

Wood Alcohol Deaths.—The report of the Metropolian Life Insurance Company for the first four months of 1920 shows that there were forty deaths from wood alcohol poisoning incidental to the use of adulterated beverages. During the same time there were eighteen deaths from acute or chronic ethyl alcoholism. Under present conditions, wood alcohol poisoning is, according to this report, a significant cause of death. On the other hand, deaths from alcoholism in the narrow sense of the term numbered twelve during this period as against sixty-two for the same period of 1919. Alcoholic cirrhosis of the liver shows no deaths thus far this year, although there were seven during the first quarter of 1919.

Taking Fingerprints of All Babies Advocated.—Owing to the difficulties encountered in an investigation into the circumstances under which an undertaker obtained a woman's body from the morgue and buried it without the knowledge of her relatives, the suggestion made by Deputy Police Commissioner Joseph A. Faurot and Acting Capt. John A. Ayres, that physicians filing birth certificates be required also to file fingerprints of the new-born baby is receiving open discussion by city officials. It is pointed out that this would make available an infallible lifelong method of identification, would prevent the burial of a body as that of another person, would limit opportunity for fraud and guard the individual. Dr. Frank J. Monaghan, Brooklyn, acting health commissioner, has expressed himself as favorably impressed with the plan, as it would give an identification record that would stand a legal test and would serve to identify lost children. It is thought that to have the system favorably considered it will be necessary to educate the public because the mention of taking fingerprints suggests a criminal process, though it may be quite as useful in safeguarding the individual or in saving a fortune.

NORTH CAROLINA

Report Profits for Children's Hospital.—Out of the profits of Grove Park Inn, Asheville, the owner will construct and maintain in Asheville a modern hospital for the treatment of crippled children of America on a site near Grove Park Inn on Sunset Mountain. Dr. W. P. Herbert, Asheville, will be chief of the medical staff.

Colored Medical Association Meeting.—The thirty-first annual meeting of the North Carolina Medical, Dental and Pharmaceutical Association was held at Rocky Mount, June 29 and 30, and Charlotte was selected as the place of meeting for next year, and the following officers were elected: president, Dr. William C. Strudwick, Durham; vice presidents, W. H. Williams, Goldsboro, and Peter W. J. Burnett, Rocky Mount, and secretary-treasurer, Dr. Clyde H. Donnell, Durham.

Physician Fined for Failing to Report Births.—The highest fine as yet imposed in a local court for violation of the state vital statistics law was imposed on Dr. B. W. Tugman, Warrensville, July 17. He is said to have been assessed $50 and costs in two cases of failing to report births when he was the attending physician. The case was aggravated by the fact that last summer Dr. Tugman was convicted and given a nominal fine and that in this instance prosecution was instigated only after repeated unsuccessful efforts had been made to get him to comply with the law.

OHIO

Society Acquires Building.—The Toledo Academy of Medicine has purchased the Frank H. Hurd Democratic Club Building, Toledo, for $42,500.

Gift to Homeopathic College.—It is reported that a gift of $400,000 has been made by Mr. Charles F. Kettering of Dayton to promote research in the College of Homeopathic Medicine of the Ohio State University.

Medical Chautauqua.—A medical chautauqua for physicians of Dayton and vicinity will be held at the Fidelity Building, Dayton, September 21 to 24. Among the physicians on the program are Drs. Hugh T. Patrick, Dean Lewis and Alfred C. Croftan, Chicago, Dr. Walter B. Cannon of Harvard University and Dr. Lillie of the Mayo Clinic.

Reciprocal Relations Withdrawn.—At a recent meeting, the Ohio State Medical Board adopted a resolution canceling reciprocal relations with the Arkansas Eclectic Board of Medical Examiners. The reason stated was that the latter board persisted in examining and licensing graduates of a nondescript medical college of Kansas City which is not recognized as an eclectic college by the National Eclectic Medical Association.

Personal.—Dr. Stephen A. Douglass, superintendent and medical director of Ohio Tuberculosis Sanatorium, Mount Vernon, has resigned, to take effect September 1.——Dr. Thomas J. Arundel, Youngstown, who served in Italy during the war as dietitian and physician with the Knights of Columbus, has received from the vatican the gold cross "Pro Ecclesia et Pontifice" in consideration of service rendered humanity and the church.——Dr. Harry L. Rockwood has been appointed health commissioner of Cleveland.

PENNSYLVANIA

Personal.—Dr. William K. T. Sahm, Pittsburgh, medical examiner for the Pennsylvania Railroad, voluntary relief department, retired from active service, June 30, after an administration of thirty-four years. Dr. Sahm was presented with a silk umbrella by the assistants and clerks of the department and a leather traveling bag by the medical examiners of the Pennsylvania system.——Dr. John M. Lawler, Pittsburgh, superintendent of the Allegheny General Hospital since 1918, has resigned.——Dr. Thomas H. A. Stites of the state tuberculosis sanatorium, Hamburg, has resigned.——Dr. Charles J. Hatfield, Philadelphia, and T. Finegan, state superintendent of public instruction, have been appointed Pennsylvania members of the national advisory council of the Modern Health Crusade.——Dr. George S. Deibert, Allentown, heads the eligible list for superintendent in the new bureau of hospitals in the department of health, Philadelphia.

Philadelphia

Regulations for Barber Shops.—Drastic regulations for barber shops in Philadelphia were adopted, July 1, by the board of health, acting on a request made by proprietors of barber shops in the central part of the city for sanitary inspection and certification of their establishments. A copy of regulations will be sent to every barber shop in the city.

Alcohol and Narcotic Law.—The committee on medical defense of the Philadelphia County Medical Society has issued to members a formal statement which declares, "The law on prescribing alcohol and narcotics is sufficiently clear and liberal to cover all ordinary cases and occasions," and which warns members "not to bring discredit on the society and profession."

War on Narcotics.—Mayor Moore will call a conference of drug manufacturers to establish measures to check the illicit traffic of drugs in this city. This action was taken as a result of the discovery of $6,000 worth of drugs by members of the vice squad. It was found that the drugs were being sold by "pedlers" to addicts for $2 a "deck." The confiscated drugs were turned over to the department of health for use in the hospitals.

More School Inspectors Needed.—According to statistics 15 per cent. of the schoolchildren failed to qualify for promotion in June at the end of the term, and the greatest number of these failures were evidenced in the first grade. The board of education has delayed in making necessary increases in the medical staff. The department of health through its health centers is ready to assist in every possible way to take care of the children who need medical attention, but it cannot and should not be the means for finding the needs of the children. More medical inspectors and nurses are needed. Ten public school buildings have been found absolutely insanitary, and an order has been issued to the board of education to place them in better condition.

City Bathhouses Insanitary.—Insanitary condition exist at a majority of the recreation centers and bathhouses under the auspices of the board of recreation, according to a report on a survey of those places submitted to Director Tustin by Dr. Blair Spencer, physician in chief of the department of public welfare. According to Dr. Spencer, 270,550 persons used the public bathhouses and swimming pools at recreation centers during the week ending July 10. Measures to prevent the communication of disease through the water of swimming pools in these public bathhouses were to go into effect the week beginning July 13. Every person entering a pool shall be required to take a shower bath with a generous application of soap. Bathhouse attendants will be required to make a cursory inspection of all persons entering their establishments in order to detect any appearance of disease.

TENNESSEE

New Infirmary in Bristol.—A fourteen-room eye, ear, nose and throat infirmary has been opened in Bristol by Dr. Thomas F. Staley.

Personal.—Dr. James J. Durrett, Charlottesville, Va., has entered on his duties as head of the Municipal Health Department of Memphis.——Dr. E. B. Wise has been made director of the city health department of Chattanooga, succeeding Dr. Stanton H. Barrett, resigned.

Physicians Elect Officers.—At the twenty-ninth annual meeting of the West Tennessee Medical and Surgical Association held in Jackson, the following officers were elected: president, Dr. William T. Black, Memphis; vice presidents, Drs. W. B. Bond, Martin, and Jesse P. Baird, Dyersburg; secretary, Dr. Isaac A. McSwain, Paris, and assistant secretary, Dr. George R. McSwain, Paris. Paris was selected as the next place of meeting.——At the annual meeting of the Middle Tennessee Medical Association held in Centerville, Dr. John H. King, Nashville, was elected president.

TEXAS

Health Crusade.—Since the beginning of the modern health crusade movement last year, more than 420,000 schoolchildren of Texas have been enrolled as crusaders.

Library Association Incorporated.—The Bexar County Medical Library Association has been incorporated at San Antonio with a capital stock of $10,000 by Drs. Frank Paschal, T. Lawson Moody and William A. King.

Personal.—Dr. Charles W. Goddard, Austin, state health officer, has been elected physician in chief for the University of Texas.——Dr. Charles S. Gates, Austin, has been elected physician for men in the University of Texas.——Dr. Dru McMickin has been appointed health officer of Beaumont.

Quarantine Regulation.—In accordance with a modified quarantine proclamation which became law, June 27, every mayor and health officer within the quarantine area has been notified that a complete rat extermination campaign must be inaugurated in the quarantine area which comprises 50 miles inland from the Gulf Coast and Rio Grande and Sabine borders and a radius of 100 miles from Galveston and Beaumont. This quarantine applies to all vessels, railway trains, trucks, persons or things coming from places infected, unless satisfactory proof to the contrary be submitted to the health officer.

Bubonic Plague.—A six-day period of quarantine has been made effective, June 22, at Sabine Pass, on vessels coming from ports in Mexico reporting bubonic plague.——Up to July 8, eight cases of bubonic plague had developed, with three deaths at Beaumont, and at Galveston up to that time, there had been three cases of plague with two deaths.——More than 20 per cent. of the rats examined in Beaumont are said to have been infected with bubonic plague.——The state health officer has issued an order that all health officers and physicians in Texas report by telegraph to the state board of health immediately all suspicious cases of bubonic plague.——The death of a negro boy of Galveston, at Port Arthur, July 6, is reported to have been due to bubonic plague.

WISCONSIN

Clinics Open.—Cudahy and South Milwaukee have opened permanent children's clinics. The clinic in Cudahy is held each Wednesday afternoon, under the care of Dr. Earle X. Thompson, and that at South Milwaukee, every Thursday afternoon from 3 to 4 o'clock, under the care of Dr. Charles A. Dockery.——Six clinics are now being held in Beloit, namely, a children's tuberculosis clinic, an eye, ear, nose and throat clinic, an infant welfare clinic, a dental clinic, a clinic for nervous diseases and a venereal disease and tuberculosis clinic.

Personal.—Dr. Gilbert E. Seaman, Milwaukee, formerly colonel, M. C., U. S. Army, and surgeon of the Thirty-Second Division during the World War, has been nominated by the conservative Republicans as candidate for governor of the state.——Dr. Ernest I. Bunker, Grantsburg, has been appointed coroner of Burnett County.——Dr. Robert W. Blumenthal has been appointed a member of the medical staff of the Milwaukee County Dispensary; Dr. Herbert C. Dallwig has been appointed roentgen-ray operator; Dr. John E. Mulsow to the eye, ear, nose and throat department; Glenford L. Bellis to the tuberculosis department, and Dr. Albert F. Young to the department of nervous and mental diseases.——Dr. Neil Andrews, Oshkosh, sailed for Europe, July 3.——Dr. and Mrs. Bradbury N. Robinson, Baraboo, sailed for Europe, July 1.——Dr. Albert J. Pullen, North Fond du Lac, has been elected president of the Fond du Lac County Branch of the Wisconsin Humane Society.

CANADA

Liquor Issue Restricted.—An order in council has been approved by the Ontario government whereby physicians are now allowed only 3 gallons of liquor at any one time in place of 10 gallons as formerly.

Chair of Public Health.—The University of British Columbia has received an offer from the Provincial Red Cross Society for a Red Cross chair of public health. The Red Cross undertakes to pay the salary of a professor of public health for a period of three years, providing the university will undertake laboratory expenses in connection with the chair.

Representatives Elected.—The British Columbia Medical Act requires an annual election of representatives for various medical electoral districts throughout the province. The College of Physicians and Surgeons of British Columbia announces the results of the election for this year as follows: Victoria District, Drs. Roderick L. Fraser and George W. Hall; New Westminster District, Dr. Richard E. Walker; Vancouver District, Drs. Edwin D. Carder and Vestus E. D. Casselman; Kamloops District, Dr. John S. Burris, and Fernie District, Dr. Saul Bonnell.

Christian Science Church Not Residence.—A Toronto judge has ruled that a Christian science church cannot be erected on property reserved solely for residential purposes. The lawyer for the church argued that as the work of the Christian science church had to do with healing and as a doctor of medicine would be allowed to practice his profession in any such house, therefore the church should be so allowed. Mr. Justice Orde ruled that what is meant by physician in legislative enactments is a duly qualified physician as recognized by the law of Ontario.

Hospital News.—Toronto is still seeking sites for both an isolation and reception hospital. As the present isolation hospital is situated in the eastern part of the city, Dr. Charles J. C. A. Hastings, M. O. H., is of the opinion that residents in the east end will not tolerate the erection of any more hospitals.——The newly organized Western Association of Hospitals, recently formed at Calgary, Alta., is for the purpose of forwarding the movement for greater cooperation among the hospitals of Manitoba, Saskatchewan, Alberta and British Columbia. Dr. Maurice McD. Seymour, Regina, has been elected president. Each province has a vice president. Dr. Warren of Calgary is the secretary.

Personal.—Dr. Herbert A. Bruce, Toronto, has been made a chevalier of the Order of the Crown by the king of Belgium. This is in recognition of services rendered Belgium during the great war. Dr. Bruce was one of twelve consulting surgeons for the British army.——Dr. John G. Cunningham, Toronto, has been appointed head of the new bureau of industrial hygiene just created by the Ontario Board of Health.——Dr. Helen MacMurchy, Toronto, has been appointed to take active charge of the division of child welfare in the federal department of health, Ottawa.——Dr. Delmer A. Craig, London, has accepted an appointment as medical consultant on the staff of the Massachusetts-Halifax Health Commission.

GENERAL

Research Laboratories.—The National Research Council, in a bulletin just issued, lists more than 300 laboratories in the United States in which fundamental research is carried on.

Obstetricians and Gynecologists to Hold Annual Session.—The thirty-third annual meeting of the American Association of Obstetricians and Gynecologists will be held in Atlantic City, September 20 to 22, under the presidency of Dr. George W. Crile, Cleveland.

Climatologists Elect Officers.—At the annual meeting of the American Climatological and Clinical Association held in Philadelphia in June, the following officers were elected: president, Dr. Carroll E. Edson, Denver; vice presidents, Drs. Nelson Estes Nichols, Portland, Me., and Gordon Wilson, Baltimore, and recorder, Dr. Cleveland Floyd, Boston.

Railway Surgeons to Meet.—The thirtieth annual session of the New York and New England Association of Railway Surgeons will be held at the Hotel McAlpin, New York, October 19, under the presidency of Dr. William B. Coley, New York, chief surgeon of the New York Central Lines. Dr. George W. Crile, Cleveland, will deliver the address in surgery.

Warning.—It is reported from Fort Morgan, Colo., that a man, signing his name as J. P. McKeen, is going through the country selling contracts with the Fleming Supply Company, Kansas City, Mo., whereby the purchaser is supposed to get automobile supplies at factory cost for the price of the contract, which is $100 for five years. This company does not exist at the address given. The officials of Morgan County, Colo., are said to be holding a warrant for the arrest of McKeen who has been working chiefly among physicians.

Mississippi Valley Conference on Tuberculosis.—The eighth session of the Mississippi Valley Conference on Tuberculosis will be held in Duluth, September 2 to 4. The Chicago Tuberculosis Institute is endeavoring to arrange a trip to Duluth and return by boat, leaving Chicago, August 30, at 1:30 p. m., arriving at Duluth, September 2, 7:30 a. m., leaving Duluth, September 4, 11 p. m., and arriving in Chicago, September 7, 10:30 a. m. Reservations may be made and other information obtained by applying to James Minnick, superintendent, Chicago Tuberculosis Institute, 8 South Dearborn Street, Chicago.

Public Health Meeting.—The American Public Health Association will meet in San Francisco, September 13 to 17. Special cars will leave from Boston and New York on September 7, connecting with a special train leaving Chicago, September 8. The program will include the following entries: a symposium on the relative functions of official and non-official health organizations; western health problems; narcotic control; food poisoning; organization for child hygiene; mental hygiene and health centers. The foregoing subjects and others will be distributed among the following ten sectional groups: General Sessions, Public Health Administration, Laboratory, Vital Statistics, Sociological, Sanitary Engineering, Industrial Hygiene, Food and Drugs; Personal Hygiene, and Child Hygiene.

Bequests and Donations.—The following bequests and donations have recently been announced:

Boston Floating Hospital, Sharon, Mass., Sanatorium, and Quincy (Mass.) City Hospital, each $2 000, by the will of Daniel F. Chase, Quincy.

Methodist Hospital, Philadelphia, $5,000, by the will of Charles W. Harding.

Nyack (N. Y.) Hospital, $1,000, by the will of Justice Ernest Hall.

Locust Mountain Hospital, Shenandoah, Pa., donations of $2,500, by four physicians of Shenandoah and one of Pottsville, Pa.

The Zionist organization, a donation of $18,500 for the development of medical and health service in Palestine, by Mrs. Nathan Strauss, and $100,000 for a health and research department of the Hebrew University of Jerusalem, a donation by Mr. Nathan Strauss, New York.

For the Children's Hospital project of the Mystic Shrine, a donation of $7,000, by Retiring Past Potentate William Freeland Kendrick, Philadelphia.

Bridgeport (Conn.) Hospital, $10,000, by the will of William F. Armstrong.

Rockefeller Institute Appointments.—The board of scientific directors of the Rockefeller Institute for Medical Research announces that Dr. Winthrop J. V. Osterhout, Cambridge, Mass., has been appointed a member of the board, succeeding Dr. Theodore C. Janeway, deceased.——The following associate members have been made members: Dr. Alfred E. Cohn, medicine; Dr. Francis Peyton Rous, pathology and bacteriology; Dr. Donald D. Van Slyke, chemistry. The following associates have been made associate members: Dr. Francis G. Blake, medicine, and John H. Northrup, experimental biology. ——The following assistants have been made associates: Dr. James H. Austin, medicine; Harry W. Graybill, animal pathology; Dr. William C. Stadie, medicine.——The following have been made assistants: Miss Helen L. Fales, chemistry; Dr. Philip D. McMaster, pathology and bacteriology, and Miss Marion L. Orcutt, animal pathology.——The following new appointments were announced: Harry Clark, associate member in pathology and bacteriology; Pierre L. du Nouy, associate member in experimental surgery; Dr. Paul H. de Kruif and Lloyd D. Felton, associates in pathology and bacteriology; Dr. Rudolph W. Glasser, associate in animal pathology; Drs. Carl A. L. Binger, Ralph H. Boots and Charles P. Miller, Jr., assistants in medicine; Dr. Louis A. Mikeska, assistant in chemistry; Eugene V. Powell, assistant in roentgen ray; Dr. Leslie T. Webster, assistant in pathology and bacteriology; Drs. Goronwy O. Broun and André L. E. Gratia, Miss Katherine M. Dougherty and Mr. Thomas J. LeBlanc, fellows in pathology and bacteriology; Dr. Giovanni Martinaglia, fellow in animal pathology; Mr. Henry S. Simms, fellow in chemistry. ——Dr. Marshall A. Barber, associate in pathology and bacteriology, has accepted a position with the U. S. Public Health Service to do field work in the malaria research laboratory, Memphis, Tenn.——Miss Angelia M. Courtney, assistant in chemistry, has accepted an appointment to do chemical research work in the University of Toronto.——Dr. Carl Ten Broeck, assistant in the department of animal pathology, has been made associate professor of bacteriology in Peking Union Medical College.——Mr. Earl B. Clark, assistant in chemistry, has accepted a position with the bureau of standards.——Dr. Ferdinand H. Haessler, assistant in pathology and bacteriology, has been appointed resident pathologist to the department for nervous and mental diseases of the Pennsylvania Hospital, Philadelphia.——Dr. Arthur B. Lyon, assistant in medicine, has resigned to enter private practice.

Colonel Russell Resigns to Take Up New Duties.—Col. F. F. Russell has resigned from the Medical Corps, U. S. Army, to take charge of the newly organized Division of Public Health Laboratories of the International Health Board of the Rockefeller Foundation. Colonel Russell's resignation from the army is to be regretted so far as the medical corps is concerned. He has been recognized as one of its most efficient officers; he has the rare combination of scientific spirit and executive ability and through this combination has accomplished much. He has developed and stimulated the scientific spirit in others so that the accomplishment of the army in scientific matters has been by no means inconsiderable. In 1908, Colonel Russell introduced prophylactic vaccination against typhoid fever in the army. The well-known Russell double-sugar medium was a product of this period, and was the first instance in which more than one indicator of the bacterial action was used in the same tube. In 1903, he collaborated with Hiss in the study of dysentery bacilli, and described the organism later known as the Hiss-Russell, or "Y," type of the dysentery bacillus. On the death of Major Carroll in 1907, Colonel Russell was placed in charge of the laboratories of the Army Medical School, with which he has been more or less associated ever since. In 1912, Colonel Russell went to Porto Rico to assist in suppressing an outbreak of plague. In 1914, he went to Vera Cruz as a member of the expeditionary force and directed the laboratory service of the medical department. In 1915-1917 he served on the Canal Zone and planned and built the model board of health laboratory. In administrative lines he has been especially active in building up the Army Medical School and department laboratories from the point of view of equipment, personnel and output. For some years he has advocated the placing of the school on the grounds of the Walter Reed Hospital, and the development of a symmetrical scheme for graduate medical education, combining both hospital and laboratory facilities. This project is about to be realized, largely through the active support of Surgeon-General Ireland. While there is universal regret in the medical corps over the loss of Colonel Russell's services to the army, it is realized that his ability and his army experience will be especially valuable in his new position. He will retain a commission in the reserve corps.

FOREIGN

Cholera in Japan.—A press telegram from Tokyo states that 500 new cases of cholera had been reported in Japan in the previous week.

Prize Awarded to Inventor of Cinematic Amputations.—The Ribero prize of 20,000 lire was awarded recently by the Turin Accademia di medicina to Dr. G. Vanghetti of Empoli, Italy, for his method of cineplastics, the utilization of the muscles in the amputation stump to actuate artificial limbs.

Testimonial to Roux of Halle.—Dr. W. Roux, professor of anatomy at the University of Halle, known for his research on the mechanics of evolution and functional adaptation of parts, recently reached his seventieth birthday, and a prize was founded in his honor by the city of Halle and another by the minister of arts and sciences. His pupils also collected 31,000 marks toward a special institution for research on evolution, and two *festschrifts* were presented to him.

Deaths in Other Countries

Dr. **M. Anzoátegui,** a leading physician of Salta province, Argentine, at one time minister of the treasury, aged 50.——After a long illness Dr. **Terroba y Solares,** ophthalmologist of Mexico City.——Dr. **David Berry Hart,** lecturer and writer on obstetrics and gynecology at the School of Medicine of the Royal Colleges, Edinburgh, honorary member of the American Gynecologic Society, aged 69.——Dr. **P. W. Heiberg,** one of the pioneers in modern surgery in Denmark, aged 80.——Dr. **B. Rojas Carvallo** of Santiago, Chile, aged 66. ——Dr. **G. Klein,** professor of gynecology and obstetrics at the University of Munich, and medical historian.——In Cuba, Dr. **M. Riva** and Dr. **G. J. Benasach,** both of Havana.

Government Services

Honor to Captain Pleadwell

The order of Commander of British Empire (military division) has been conferred on Capt. Frank L. Pleadwell, M. C., U. S. Navy.

Departments of Public Health Service Move

Arrangements have been made whereby several bureaus of the U. S. Public Health Headquarters in Washington will be all located in the building formerly occupied by the U. S. Shipping Board at Sixth and B Streets. The bureaus which will be thus transferred are the hospital, venereal disease, Marine Hospital dispensary, industrial hygiene and statistical. These various bureaus have heretofore been located in various parts of Washington, D. C., but will in the future be located in the Shipping Board Building.

Airplane Ambulance

A new design of airplane ambulance, with a fuselage designed especially for the transportation of the sick and wounded, was recently completed at the Air Service Experimental Station, McCook Field, Dayton, Ohio. The basis for the new ambulance is the DH-4 type of airplane, but many modifications have been made to increase its stability and safety. The depth of the fuselage behind the pilot's seat has been increased, and this space has been divided into upper and lower compartments, each of which provides space for one litter patient. Above the upper compartment is a cockpit provided with a portable seat for the use of the medical officer. On its trial flight, the ambulance negotiated 130 miles in sixty-five minutes and made the return trip in 105 minutes. Several ambulances of the new type are being constructed for use on the Mexican border.

Medical and Surgical History of the World War

Among the important work under way in the office of the Surgeon-General of the Army is the preparation of the medical-surgical history of the World War. Col. Charles Lynch, M. C., is in charge of this work, and is assisted by Colonels Brook, Siler, Moncrief, Wolf, Oliver and Major Kramer of the Surgeon-General's staff.

The history will include an account of the work done during the war in a great many branches of modern scientific medicine and surgery. Subjects to be presented and medical officers who will present such subjects are set out in the following:

Administration, Western Front, Lieut.-Col. Louis C. Duncan.
Administration, United States, Lieut.-Col. Fielding H. Garrison.
Narratives, Col. Bailey K. Ashford.
Sanitation, Col. W. P. Chamberlain.
Sanitation, Western Front, Col. Haven Emerson.
Internal Medicine, Gen. W. S. Thayer.
Surgery, Gen. John M. T. Finney.
Neurology, Col. Thomas W. Salmon.
Oto-Rhinology, Lieut.-Col. Joseph R. McKimon.
Statistics, Maj. Albert G. Love.
Pathology, Col. William H. Welch.
Hospitals, Lieut.-Col. Casey A. Wood.
Communicable Diseases, Col. Hans Zinsser.
Gunshot Wounds, Col. George E. Brewer.
Aviation, Col. Thomas R. Boggs.
Gas Defense, Col. H. L. Gilchrist.
Reconstruction, Col. Frank Billings.
Ophthalmology, Col. George E. deSchweinitz.

It is expected that the history will contain about fifteen volumes, and according to present tentative plans the respective volumes will cover the following titles:

I. Introduction.
II. Administration—United States.
III. Administration—Western Front.
IV. Statistics. Mathematician Interpretation of Data (Anthropometry).
V. Sanitation in the United States, Including Possessions.
VI. Camps and Cantonments.
VII. Hospitals.
VIII. General Medicine.
IX. Neurology.
X. Surgery.
XI. Gunshot Wounds.
XII. Pathology.
XIII. Physical Reconstruction.
XIV. Air Service.
XV. Chemical Warfare.

Foreign Letters

PARIS

(From Our Regular Correspondent)

July 1, 1920.

Death of Simonin

Dr. Simonin, director of the army medical school at Lyons, recently died at the age of 56. In the early part of the World War, Dr. Simonin was severely wounded and taken prisoner, and he wrote an affecting account of his experiences during this captivity.

Congress of Alienists and Neurologists

The twenty-fourth Congrès des médecins aliénistes et neurologistes de France et de pays de langue française will be held at Strasbourg, August 2-6, 1920. Dr. E. Dupré, clinical professor of mental disorders and diseases of the brain on the Paris medical faculty, and Dr. Pfersdorff, professor of psychiatry on the Strasbourg faculty, are president and vice president, respectively, of the congress. The topics listed for formal discussion include postoneiric psychoses, opened by Dr. Delmas; occupational factors in mental disorders, opened by Dr. Coujonlou, and the lesions of the thyroid gland in exophthalmic goiter, opened by Dr. Roussy.

The Work of L'Œuvre Grancher

In a communication to the Académie des sciences morales et politiques, Dr. Armand-Delille recently stressed the value of familial placement of children in child welfare work. Basing his arguments on the results obtained by L'Œuvre Grancher, which has placed more than 2,000 children, Dr. Armand-Delille insisted on the superiority of this method, first and foremost from the moral point of view, because it most nearly approaches the conditions of normal family life; from the hygienic point of view, because it avoids the danger of infectious diseases, the complications of which are particularly fatal to institutional children, especially in nurseries and baby homes; from the economic point of view, because it does not require large sums for buildings and the salaries of a specially trained personnel, always difficult to find; from the social point of view, because the child thus takes a liking to a trade, or, if a girl, to housekeeping.

Finally, familial placement offers the advantage that if the family has been chosen with the desirable discernment, the child finds an educational and moral environment superior to that in the average run of family. The only necessary condition, therefore, to demonstrate the incontestable superiority of familial placement is that the choice of the family be made carefully under competent supervision.

The Truth About American Prohibition

Under the foregoing title, the *Etoile Bleue*, official organ of the Ligue nationale contre l'alcoolisme, published an interesting and expedient article. As a matter of fact, for some time past the daily press has carried foreign dispatches tending to prove that prohibition in the United States has had no social effect, except to encourage the use of more deleterious drugs, morphin, cocain, ether and methyl alcohol; the latter agent is said to have caused poisoning en masse. It is also claimed that prohibition has caused in reality an increase of alcohol consumption and of crime, that it has provoked popular uprisings and brought on a strike of workmen, would-be malcontents because they were no longer able to imbibe freely. It is said that a great number of American workmen, recent immigrants, have returned to their own countries where they can drink again at will. One report states that the roads leading to Cuba, where alcoholic beverages may be freely obtained, are encumbered with travelers going to take

a short course of inebriety; that 2 miles off the coast a floating island has been built where thirsty Americans can become inebriated in all privacy. There is not space enough to relate all the tiresome stories which are printed, without even a wrinkling of the forehead, by the public press under subsidy of an international syndicate of liquor merchants. Attentive reading suffices to convince one that such news is made of whole cloth. One thing is certain, that this European newspaper campaign has enormous financial support; but unified direction, the semblance of sincerity and tact are lacking. These lies are devoid of even the most elementary scientific logic, which alone could bring illusion to the uninformed readers.

The *Etoile Bleue* thinks that it is incumbent on independent journals to publish the truth about prohibition supported by the best possible proof. It quotes from reputable and reliable papers to show certain good effects of prohibition, among others the decrease in arrests for drunkenness, the diminution of poverty and the increase in savings and bank deposits. This article is all the more interesting since the antiprohibition campaign recently found an echo in a medical journal. The *Gazette des hôpitaux*, in fact, published a letter from an American correspondent who claims that prohibition was forced on the country, as it were by surprise, by certain radical elements which very cleverly knew how to profit by the favorable circumstances created by economic exigencies of the war and by the absence of a large number of voters.

Visit of Spanish Physicians

A group of Spanish physicians, including Dr. Núñez Grimaldos, editor of *Los Progresos de la Clínica* and *Plus Ultra*, recently visited the Paris medical faculty and the Pasteur Institute.

LONDON

(From Our Regular Correspondent)

July 3, 1920.

Annual Meeting of the British Medical Association

The eighty-eighth annual meeting of the British Medical Association, held at Cambridge, was the first complete meeting held since the war, during which the scientific part of the annual meeting was suspended. At the meeting last year in London this was resumed; but the meeting was not a complete one, as the number of sections was greatly reduced. Before the war the next annual meeting had been arranged to take place at Cambridge. Hence the present function can be regarded as a postponed one, and its importance was increased by this fact. The ample accommodation provided by the university, the beauty of the surroundings, and the historical interest of this famous seat of English learning made an ideal setting. Among the distinguished foreign visitors present were J. Bordet, president of the Faculty of Medicine and director of the Institut Pasteur, Brussels; Piero Giacosa, professor of materia medica and experimental pharmacology, Turin; Dr. Simon Flexner, director of the laboratories of the Rockefeller Institute, New York; Dr. John J. Abel, professor of pharmacology, Johns Hopkins University, Baltimore; Dr. R. R. Browne, representative of League of Red Cross Societies, Geneva; Dr. Harold Feil, New York; Dr. Robert W. Hegner, director of the department of medical zoology, Johns Hopkins University, and Dr. Alfred Hess, professor of clinical pediatrics, Bellevue Medical School, New York.

THE PRESIDENT'S ADDRESS

The president, Sir T. Clifford Allbutt, in his address, entitled "The Universities in Medical Research and Practice," asserted that the universities, ancient and modern, from Alexandria to Edinburgh, have made the professions. He sometimes thought that the "classics" would have to come back as a "modern side." The university stood for each student for something larger than the field of a particular calling, for a more comprehensive design. We must be trained not only to handle particulars but also to handle ideas. Narrow specialization was found in medicine, as in other arts, among people of narrow culture; never among the Greeks, but abundantly among the Egyptians, the Romans, the third century folk, and today in the tribes of Melanesia. Specializing was prone to be quackish, and had been said to be "only an unequal distribution of ignorance." He pleaded for a study of comparative pathology. Light for the study of the generation of diseases in man must be obtained in part by a study of diseases in animals and plants. Discussing the future of the physician, under the projected socialization of the profession, he considered that an official physician would be as alert and progressive as a country parson, whose service is not much kindled by the chances of promotion; while to shift an official physician from place to place would be to cut the inner threads of those intimacies which we now declare to be clues to the detection of diseases at their sources. Yet, as things are, the independent practitioner is isolated; even in a town he is likely to make a little orbit for himself; he lacks mental incentive, and gradually lets slip occasions of scientific reunion.

At the conclusion of his address the president was presented with his portrait, the work of Sir William Orpen, which had been subscribed for by a great number of physicians. Sir Norman Moore, president of the Royal College of Physicians, who made the presentation, said that Sir Clifford Allbutt deserved to rank with his great predecessors in the chair of medicine at Cambridge, who included Glisson, the celebrated anatomist.

THE MEDICAL CURRICULUM

In the Section on Medical Education the introductory address on "The Place of Preliminary Science in the Medical Curriculum" was delivered by Sir George Newman, principal medical officer of the ministry of health. He considered that four reforms were needed in the medical curriculum: 1. A lightening of the curriculum at both ends. In other words, fuller preparation in science before entering the medical school, and a postponement of certain specialties to the postgraduate period. 2. A fuller study of the sciences preliminary to medicine and a closer application of these sciences to clinical work. Above all there was great need of biology (anatomy and physiology). 3. Development of clinical teaching of university standard, particularly in relation to the beginning of disease, the closer integration of various forms of clinical practice and of clinical with intermediate study, concentration on the protean diseases of tuberculosis, malaria, venereal and malignant diseases, and an understanding of the social side of therapeutics as well as the social side of aspects of disease. 4. Further state aid, though with a minimum of state control. More teachers, better teachers and better-paid teachers were necessary.

In a paper on the teaching of anatomy, Prof. Arthur Keith made a novel and startling plea: Every medical teacher should keep his knowledge in such a state that, if called on, he could resume or assume the rôle of a general practitioner. This was the only guide by which the teacher had as to what his pupils should know. He believed that he had himself gained in every way by keeping up his knowledge of general medicine. If there was compulsory training of the physician, why not of the medical teacher? At every great medical school every teacher of anatomy and physiology should hold occasional clinical appointments up to their thirty-fifth year. Another reform needed was in the scope of textbooks, which strove to serve as works of reference for the research as well as the pass student. The greatest sinners were the anatomists

and physiologists; their books could be reduced by half with an improvement in the education of the man who is to practice general medicine. He requires for diagnosis a knowledge of the exact situation and action of the parts of the body. But less than half of our textbooks were devoted to this. It was not so with the earlier textbooks, which were keys to the living body. Examination papers were a wearisome repetition of "describe" this and "describe" that, as if the student could apply pure description or obtain any assistance from it in practice. Anatomy could be made a living part of medicine if only the teacher would ask himself: Could this fact help me in diagnosis or treatment? If not, let it repose in the comfortable storage of works of reference until it has proved its right to enter the currency of applicable knowledge.

THE REPRESENTATIVE MEETING

At the meeting of the representative body, many subjects of great importance were discussed. It was decided to increase the annual subscription from the present one of $10.50 to $15.75. The reason for the increase was not only the great increase in the cost of producing the *Journal* in all directions, but also the need for adequate funds to carry on the forward political policy of the association. The meeting resolved to ask the council to consider the desirability of excepting from the increase any member who had retired from practice or was of forty years' standing, as many of these received no benefit from the political work of the association, and continued their membership out of loyalty to it.

PROFESSIONAL SECRECY

A long debate took place on the question of professional secrecy which, as pointed out in previous letters to THE JOURNAL, is on an unsatisfactory footing in this country. In 1915 the council of the association went fully into the question and was advised that, apart from state officials, such as ministers of the crown, judges of the high court, and others placed in positions of more or less supreme importance, the only classes of persons recognized by the law courts as competent to claim to hold statements made to them, involving matters of criminal import or otherwise, as absolutely inviolable from obligation to disclose, were lawyers and ministers of religion. But though no such universally recognized protection attached to statements made to a member of the medical profession by a patient, there was admittedly a certain degree of professional secrecy recognized as being associated with such statements, although a conflict of authority existed as to the extent to which this could be carried. As a result of its consideration of the subject, the council expressed the opinion that "a medical man should not under any circumstances disclose, voluntarily, without the patient's consent, information which he has obtained from that patient in the exercise of his professional duties." The chairman of the Central Ethical Committee moved a resolution identical with the preceding excepting that the words "more particularly with regard to venereal disease" were added. The provision by the state of centers for the treatment of this disease has raised in a new form the question of professional secrecy. The chairman recognized that there must be exceptions to the rule. A physician might receive an order from a court to divulge. In such a case an individual physician might feel that he should defy the order and take the consequences. A physician might feel it his duty to divulge a professional secret in order to prevent the committal of a crime, or injury to a third person. In the discussion a member told a story which illustrates the unsatisfactory state of the law on the subject. On the grounds of professional confidence he refused to answer a question in a court. Some time afterward he was attending the judge, who said to him: "You know I could have imprisoned you last week for not answering that question, but if you had I never would have had you in my house as a physician again." The motion was carried.

SECRET REMEDIES

A resolution was carried that a physician should not make use of or recommend any remedy, the principal ingredients of which were not disclosed to the profession. The chairman of the Central Ethical Committee said that it had been brought home to the committee that there was growing laxity in this matter on the part of a large number of members of the profession. They had taken a very strong public line in urging Parliament to bring in legislation to control the sale of registered preparation with the perpetual protection of trade marks and other similar practices which they regarded as inimical to the public interest. But if they found that the advertisers were able to say truthfully that physicians themselves were guilty of gross remissness in regard to that question, they had the ground cut from under their feet for any effective action.

MADRID

(From Our Regular Correspondent)

June 12, 1920.

Tabes and Eye Disorders

Professor Fuchs recently delivered at the Real Academia Nacional de Medicina of Madrid an excellent lecture on "The Relations Between the Eye and Tabes." This disease is preceded by premonitory symptoms, which Fuchs divides into (1) pupillary signs, (2) paralysis of the motor oculi, and (3) atrophy of the optic nerve.

PUPILLARY SIGNS

1. Absence of the light reflex (Argyll Robertson sign). It is well known that the normal pupil reacts by contraction to the light as well as to convergence and accommodation. The first contraction is reflex, while the contraction during convergence and accommodation is a synergic or associate action, for the nuclei of the abducens nerves which direct the convergence (i. e., rule the external recti, and also the accommodation, that is, the ciliary muscle and the sphincter of the iris) act at the same time, while the contraction produced by the light requires the stimulus of a centripetal nerve (optic) and one centrifugal (abducens). The combination of both forms a reflex act. The dilatation of the pupil by a sensory sensorial or psychic stimulus is also reflex. The centripetal branch is formed by sensory nerves and the centrifugal by sympathetic nerves, which receive the stimulus of the former through the ciliospinal center of the lower cervical part of the spinal cord. During the absence of the pupil reflex, the pupil does not react to the light, but it contracts during convergence and accommodation. This lack of reflex is one of the earliest and most common signs of tabes, which is found in 70 or 80 per cent. of the cases, as well as the absence of the patellar reflex. While the location of the lesion that breaks the reflex arc is not known positively, it seems most probable that it is located in the tract of the pupillary fibers of the optic nerve on their course to the nuclei of the abducens, namely, in the vicinity of the aqueduct of Sylvius, along the posterior longitudinal bundle. When there is total lack of reflex the lesion is located in the abducens itself, either in the nucleus, the nerve or its endings. In the cases seen in the dispensary, the total immobility is the terminal stage of the reflex, although in other cases the former is present as such from the very beginning. In tabes, total immobility is three times less common than reflex immobility. Reflex immobility is also found in general paresis (50 per cent.) and in brain syphilis (10 per cent.), while it is exceedingly rare in other nerve affections. Reflex immobility is therefore an almost exclusive sign of syphilitic or parasyphilitic infection of the nervous system.

2. Miosis. This is the second important sign of incipient tabes, and is found in about one half or one third of the cases with reflex immobility. Miosis with normal pupillary reaction is not a sign of tabes, being congenital, senile or due to chronic intoxication. It is due to the inaction of the dilator through lack of stimulus. Under normal conditions the stimulus of the centripetal nerves involves, through the sympathetic, a certain degree of permanent contraction of the dilator. If the stimulus does not reach the nerve centers (narcosis, sleep, etc.), the contraction of the dilator stops and the pupil closes. In spinal miosis the cause seems to be the degeneration of the ciliospinal center, which prevents the transmission of the stimulus from the centripetal nerves to the sympathetic and then to the dilator.

3. Anisocoria (pupillary inequality). This also is common in tabes, and is due to a lesion of the centrifugal abducens or sympathetic nerves. It is not so important as the lack of reflex as it is less common in tabes (one fourth of the cases), and because of its being found in other conditions and even in normal cases.

OCULAR SIGNS

The paralysis of the motor nerve (in 20 per cent. of tabes patients) appears long before the ataxia. The features which characterize the paralysis of the motor oculi in tabes are its temporary character, at least in the beginning; its remissions, and the different degree of paralysis in the muscles supplied by these nerves; the transmission of stimuli to the levator palpebrae superioris; the conquering of the paralysis by an effort of the will, and the insignificant part played by the diplopia. In the tabetic paralysis, the lesion may be in the region of the nuclei of the motor oculi below the aqueduct of Sylvius and the floor of the fourth ventricle. We deal with degeneration processes, a proliferation of the ependyma with sclerosis of the underlying gray matter, followed by atrophy of the efferent nerves. In rare cases, the lesion is found in the nerve trunk itself or the muscle endings.

ATROPHY OF THE OPTIC NERVE

Atrophy of the optic nerve is the most frequent complication and ends unavoidably in blindness. It is to be feared all the more, since, through its occurring at the beginning of tabes, it may blind the patients for many years. It is very exceptional for the atrophy to occur in the paralytic state, so that a patient with ataxia needs not fear to become blind, and in turn those with optic atrophy need not fear ataxia until much later. Optic atrophy attacks from 10 to 15 per cent. of all tabes patients—chiefly men in the prime of life. This complication is very uncommon among women. Infantile tabes, as a sequel of hereditary syphilis, is very rare, but it is accompanied almost always by atrophy of the optic nerve. The atrophy does not occur at the same time in the two eyes, but very seldom is a case found in which the atrophy remains unilateral. The ophthalmologic signs are far from being characteristic, the only peculiarity being that in tabetic atrophy the disk is pale at a time when the patient is not complaining as yet about his eyes. The descending atrophy is accompanied by other symptoms. The pallor of the disk shows that the degeneration occurs in the anterior ending of the optic nerve in the peripheral bundles. The first symptom of the loss of vision is the retarded adaptation to darkness; afterward the acuteness and the visual field diminish for the perception of some colors, as red and green, while the perception of form remains. Whatever may be the relation between the central visual acuteness and the visual field, the disease always ends in complete blindness in a period that varies from a couple of months to twenty or more years. Tabes patients are syphilitic cases whose infection seems mild. Those having frequent syphilitic manifestations are not threatened by tabes, and that is the reason why this condition is never seen in those who have suffered syphilitic iritis or perforated palate. The oculist is frequently the first one to diagnose tabes. When this is detected in its incipient stage, there should be made a general examination of the patient and a blood and cerebrospinal fluid Wassermann test, determining, also, in the cerebrospinal fluid the globulins, lymphocytosis and the albumins by the colloidal gold test If the blood and cerebrospinal fluid tests are positive, there is danger of tabes or general paresis, and there must be instituted a vigorous treatment until the tests become negative. When these diseases have become apparent, the treatment is usually rather inefficacious; and although other symptoms may improve, the action on the optic nerve is practically nil. The failure of the specific treatment in parasyphilis is explained by the special conditions of the blood supply of the nervous system. The meninges are rich in vessels which are in contact with the surrounding connective tissue, and therefore the blood and the medicinal substances contained in it can pass freely from the vessels to the meningeal tissue. In the nervous tissue, on the contrary, the vessels are surrounded by a sheath of neuroglia that seems to offer an insurmountable barrier to some substances. Syphilitic affections locate by choice in the meninges, while with parasyphilis the spirochetes are found in the nervous tissue itself and therefore are not accessible to drugs. This is the reason why the introduction of remedies directly into the cerebrospinal fluid has been suggested. The success with other symptoms of tabes lends hope that this method may prove effective in the atrophy of the optic nerve.

BERLIN

(From Our Regular Correspondent)

June 28, 1920.

Aftermath of the World War

The tremendous political, social and economic disasters which were brought on the German people by the war, by the treaty of peace and the revolution have had special influence on the medical profession, the public health service and medical science.

OVERCROWDING OF THE MEDICAL PROFESSION

Many years before the war the medical profession of Germany was overcrowded; this evil has been markedly increased as a result of the war and the peace treaty. The losses of German physicians on the battlefield and through other effects of the war are inconsiderable as compared to the factors which have increased the absolute or relative overcrowding of the German medical profession. According to the official casualty lists, 1,325 physicians died from causes of action in the line of military duty. Opposed to this decrease, however, is first of all the decrease in population of the present German territory. At the beginning of the war, Germany had a population of approximately 68,000,000. Dr. Hugo Prinzing, a leading statistician, estimates that from the beginning of the war up to Jan. 1, 1919, 4,800,000 infants were born in Germany; 1,800,000 men were killed or died in military service; 5,500,000 civilians died, and about 500,000 emigrated during the same period. To these losses, 3,500,000 should be added for the loss of Alsace-Lorraine, the Polish districts and the provinces of Posen, West Prussia and East Prussia, and the northern part of Schleswig. Even assuming that upper Silesia and the doubtful districts of East Prussia do not revert to Poland, Germany will have a population of about 61,500,000. According to figures in the German medical directory, about 1,600 physicians lived in the lost territory; of these, at least 600 were ejected or voluntarily returned to Germany from the new French and Polish possessions. Whereas, before the war there were 34,000 physicians in Germany with a population of 68,000,000, there are today 32,000 to 61,500,000 inhabitants; evidently a considerable

increase in the ratio of physicians to inhabitants, to the disadvantage of the former. This factor, already of deplorable consequence to the economic status of physicians, will in the future prove almost catastrophic because of the inordinate increase during the last year in the number of medical students, whose ranks will be further augmented in succeeding years. During the war, it was imperative to increase the number of trained medical assistants because of military necessity, and the entrance examinations were made much easier. What an enormous student body was thereby constituted during the fifth year of the war is now startlingly apparent in the lecture rooms of the medical schools. There has been further accession from the ranks of other vocations, as a result of the political upheavals that forced many to give up their former callings and to elect the study of medicine, which for one reason or another struck them as the most suitable. Statistics recently compiled show that the number of medical students has increased from 11,000 in 1913 to 22,000 today. Since it can hardly be assumed that any considerable portion of this multitude will fail to reach the goal, it must be expected that in a few years the number of physicians will increase to 54,000, or eight physicians per ten thousand of the population, as compared with five per ten thousand in 1913. Although this unfavorable disproportion in itself represents a restricted earning capacity, it can readily be understood that the poverty of the German people will have even worse influence on the economic status of physicians.

SICKNESS INSURANCE SOCIETIES

By the extension of sickness insurance, even worse conditions are awaiting the krankenkassen (sickness insurance societies) physicians, who constitute the majority of the German medical profession. Since the greatest enemies of insurance physicians were to be found in the ministry (especially ministers Bauer and Frässdorf), it was anticipated that the representatives of the social democratic party in the new government would very soon increase the existing disparity between krankenkassen fees and medical services. Soon after the revolution of Nov. 9, 1918, the provisional government extended the compulsory insurance act to include all employees with an annual income up to 5,000 marks, instead of 2,500 as heretofore. If one remembers that the number of krankenkassen members rose from 5,400,000 (9 per cent. of the population) in 1885, to 20,000,000 (about 30 per cent.) in 1914, and that the membership was further greatly augmented by this regulation of December, 1918, he can readily understand that the private practice of physicians had shrunk considerably even then. Although objections were naturally raised by the medical profession and by statesmen, the new government did not rest content with this extension of compulsory insurance but a few weeks ago it suddenly decided to include all employees with an income up to 20,000 marks; the latter figure was reduced to 15,000 marks by the national assembly as a result of a storm of protests from the medical profession and insured persons alike. But even under this provision at least 90 per cent. of the population was drawn into the kassen, leaving a bare 10 per cent. for private practice. Physicians who had joined the Leipziger Verband therefore appealed to the government with the request that the prevailing scale of fees for krankenkassen physicians should be revised in conformity with the changed conditions, failing which the physicians would consider their contracts with the krankenkassen as canceled, and would treat the sick only as private patients under the terms of the general regulation of fees. In view of the firmness and unanimity of the medical profession, the government was forced into negotiations, which have not yet been concluded.

So far as results are known, representatives of the medical profession virtually obtained concessions for the introduction of so-called free selection of the physician (which will admit to the kassen practice all physicians who register their intention under certain conditions) and an increase in the fees. Regarding the latter factor, it may be stated that the medical representatives demanded an annual capitation allowance of 46 marks; representatives of the kassen have hitherto been willing to concede only 26 marks. If one considers the services which physicians must generally render for this sum, the demands will certainly not seem excessive. From a general psychologic standpoint it will be understood that for this fee the members of the kassen do not always receive the services to which they believe they are entitled. To realize the necessity of improvement in the status of physicians under the social insurance plan, allowance should be made not only for the aforementioned increase of the insurance beneficiaries but also for the conceivable introduction of family insurance, whereby the members of the employees' families will also come within the sphere of social insurance, and consequently of kassen practice.

Marriages

HERMAN ANDERSON GAILY, Baltimore, to Miss Mary Elizabeth McConkey of McClellan Heights, York, Pa., June 17.

MATHEW TAYLOR MORTON, Estherville, Iowa, to Mrs. Townsend of Monroe, Iowa, at Spirit Lake, Iowa, recently.

ROBERT LOUIS LEVY to Miss Beatrice Strauss, both of New York City, at Mount Kisco, N. Y., June 29.

LEE HERMAN KIEL, Sioux Center, Iowa, to Miss Jennie DeLong of Orange City, Iowa, recently.

WILLIAM VESTAL THORNBURG, Yale, Iowa, to Miss Adele Fonaldi of Des Moines, Iowa, June 30.

GEORGE WASHINGTON BONER, Washington, Ind., to Miss Alice Dickens of Indianapolis, June 28.

WALTER LEWIS ALLESPACH, Buffalo, to Miss Jean Halliday of Victoria, B. C., at Toronto, June 16.

HARRY JAY PITTOCK to Miss Mae Vergoon, both of Ingleside, Neb., at Hastings, Neb., May 12.

ROBERT DOW FORBES, Seattle, to Mrs. Mary R. Bradley of Winnipeg, Manit., at Seattle, May 7.

JAMES WOODROW WILSON, Riverside, Iowa, to Miss Maude Armstrong of Chicago, recently.

WILLIAM LA ROY HORNADAY to Miss Clemantine Wolf, both of Des Moines, Iowa, recently.

FRANK W. PLEHN to Miss Elpha Peters, both of Scottsbluff, Neb., in Omaha, May 3.

CLARA LOUISA HORNER, Camden, N. J., to Rev. J. C. Rodger of Shanghai, China, May 22.

GREENE HAMPTON SMITH to Miss Annie Merle Farrar, both of Blocton, Ala., June 16.

GOTTLIEB WERLEY to DR. BESSIE LUCRETIA SWEET, both of El Paro, Texas, July 3.

EDWARD CARSON ABBOTT, Omaha, to Mrs. Alma Healey in Lincoln, Neb., April 10.

JAMES N. DOWNS to Miss Mary B. Stauffer, both of Bloomington, Ill., recently.

BLASE COLE, Newton, N. J., to Miss Betty B. Kerr of New York City, April 16.

ERNEST KEYES CULLEN to Miss Charlotte M. Macklem, both of Detroit, April 28.

HARRY E. MCKIBBEN, Hector, Minn., to Miss Anna Edstrom of Omaha, April 10.

MYRON ORMELL HENRY to Miss Lucile Fisher, both of Minneapolis, April 14.

LEON WADE MARTIN to Miss Eleanor Marie Pickel, both of Chicago, July 7.

SAMUEL MARMOR to Miss Ethel Perlman, both of Chicago, recently.

BENEDICT ARON to Miss Ida Edith Cohen, both of Chicago, July 1.

Deaths

Frederick Book Abbott, Capt., M. C., U. S. Army ⊕ St. Louis; Washington University, St. Louis, 1914; aged 31; who entered the World War as a physician with the first Harvard Unit, and was on duty with the British Service and went overseas the second time with Barnes Hospital, No. 21; and was gassed at Seicheprey in the Toul sector in 1918, had been ill ever since, and was under treatment at United States Army General Hospital, Oteen, N. C.; died in that institution, June 30, from tuberculosis.

Benjamin Robinson Schenck ⊕ Detroit; Johns Hopkins University, Baltimore, 1898; aged 47; associate professor of gynecology in the Detroit College of Medicine; from 1906 to 1910 secretary of the Michigan State Medical Society and editor of its journal; a member of the staff of Harper and Woman's hospitals, Detroit; died in Broadmore, Colorado Springs, Colo., June 30.

Luther Zwingli Breaks ⊕ Terre Haute, Ind.; Rush Medical College, 1901; aged 41; captain, M. R. C., U. S. Army, and discharged May 4, 1919; a member of the American Academy of Ophthalmology and Otolaryngology; assistant ophthalmic and aural surgeon to St. Anthony's Hospital; died in the operating room of that institution, July 10, from angina pectoris.

Frank Ross Coffman ⊕ Denver; Gross Medical College, Denver, 1890; aged 51; once health commissioner of Denver, and vice president of the Colorado State Board of Health; local surgeon of the Denver and Rio Grande system and health officer of Minturn and Eagle County, Colo.; a specialist in proctology; died in Los Angeles, April 27, from heart disease.

Charles McVea ⊕ Baton Rouge, La.; Tulane University, New Orleans, 1893; aged 51; president of the Louisiana State Medical Society in 1909; a member of the house of representatives for one term and for two terms state senator; Captain, M. R. C., U. S. Army, and discharged Dec. 10, 1918; died, July 5, from chronic interstitial nephritis.

Eugene Alexander Neely, Memphis, Tenn.; Memphis, Tenn., Hospital Medical College, 1886; aged 57; formerly professor of clinical medicine in his alma mater, and president of the Southwestern Association of Railway Surgeons; for the last ten years engaged in the lumber business; was found dead in bed in Lonoke, Ark., June 30.

Gustav A. Mathews ⊕ Napoleon, N. D. (license, North Dakota State Board of Medical Examiners, 1905); aged 46; superintendent of the Logan County Board of Health; who had been operated on repeatedly for disease of the kidney; died in St. Alexius Hospital, Bismarck, N. D., April 14, from uremia.

Robert L. Gillespie, Portland, Ore.; Willamette University, Salem, Ore., 1886; aged 65; professor of theory and practice of medicine in his alma mater; clinical lecturer on mental and nervous diseases in the Oregon State University; city physician of Portland for one year; died, June 30, from heart disease.

Lucy J. Utter, Detroit; Michigan College of Medicine, Detroit, 1882; aged 74; one of the first women to practice medicine in Detroit; once vice president and resident physician of the Woman's Hospital, and Children's Home; died in the Pennsylvania Avenue Sanatorium, Detroit, July 3.

William Lego Nuttall, New Castle, Ky.; Miami Medical College, Cincinnati, 1871; aged 75; once superintendent of the State Institute for Feeble Minded, Frankfort, Ky., was attacked by his insane brother-in-law, June 28, sustaining razor wounds from which he died shortly after.

Elsthon E. Oglesbee, Cedarville, Ohio; Hahnemann Medical College, Chicago, 1885; aged 52; a member of the Ohio State Medical Association; died in Mt. Carmel Hospital, Columbus; June 30, from peritonitis, a week after a nephrectomy for tuberculosis of the kidney.

William L. Walker, Centerville, Tenn.; Eclectic Medical Institute, Cincinnati, 1874; aged 74; a Confederate veteran; representative in the legislature from Hickman County in 1890; died in Nashville, June 23, a few days after an operation for the removal of gallstones.

James R. Menzies, Weihwei, China; Trinity Medical College, Toronto, 1895; aged 56; a medical missionary in China; was shot and instantly killed by Chinese bandits, March 17, while going to the defense of the women in the Mission House, attacked by them.

Frank S. Johnson, Sioux City, Iowa; State University of Iowa, Iowa City, 1882; aged 64; formerly professor of neurology, histology, bacteriology and pathology in the Sioux City College of Medicine; died at his country home in Bronson, Iowa, July 6.

Frank Byron Brown, Boston; Medical School of Maine, Brunswick, 1887; aged 57; a member of the Massachusetts Medical Society; instructor in bacteriology and pathology in Tufts Medical School, Boston; died, July 1, from cerebral hemorrhage.

Harve Ellis Harlow, Zearing, Iowa; State University of Iowa, Iowa City, 1914; aged 39; formerly assistant state bacteriologist to the Iowa State Board of Health; a member of the Iowa State Medical Society; died in Rochester, Minn., July 7.

Frank Sumner Warren, Biddeford, Me.; Medical School of Maine, Brunswick, 1872; aged 69; for several years coroner of York County; a member of the board of aldermen and a member of the legislature; died suddenly, June 28.

Sinclair D. Gervais Niles, McGhee, Tenn.; University of the City of New York, 1861; aged 80; assistant surgeon in the Confederate service during the Civil War; died at the home of his daughter, March 3, from pneumonia.

Peter Henry Lane ⊕ Philadelphia; Medico-Chirurgical College of Philadelphia, 1906; aged 41; founder and for sixteen years in charge of the Kenwood Sanatorium, Chestnut Hill, Philadelphia; died, July 7, from pneumonia.

John Franklin Campbell ⊕ Chicago; Victoria University, Cobourg, Ont., 1886; L.R.C.P., L.R.C.S., Edinburgh, 1890; aged 56; a specialist on diseases of the eye, ear, nose and throat; died, July 14, from angina pectoris.

Eugene Lee Henry ⊕ Lecompte, La.; Tulane University, New Orleans, 1897; aged 46; formerly president of the Louisiana State Medical Society and of the board of health of Rapides Parish; died, July 7.

Fannie Donovan Conklin, Staten Island, N. Y., Woman's Medical College of the New York Infirmary for Women and Children, New York, 1876; aged 74; physician to the Lakeview Home; died, July 4.

George L. Gates ⊕ Winona, Minn.; Philadelphia University of Medicine and Surgery, 1869; aged 83; a veteran of the Civil War; died at the home of his brother in St. Paul, about July 3.

Charles H. Saul, Steelton, Pa.; University of Pennsylvania, Philadelphia, 1878; aged 67; a member of the Medical Society of the State of Pennsylvania; died, June 30, from heart disease.

Kimball Edward Thompson ⊕ Westpoint, Neb.; John A. Creighton Medical College, Omaha, 1908; aged 36; died at the home of his brother in Westpoint, July 6, from heart disease.

Edward Thomas Lawler, Amarillo, Texas; Rush Medical College, 1900; aged 42; a member of the State Medical Association of Texas; died in a sanatorium in California, June 29.

James Walter Anderson, Royal Oak, Mich.; Michigan College of Medicine and Surgery, Detroit, 1891; aged 58; a member of the Michigan State Medical Society; died, June 21.

Frederick Straughn, Jersey City, N. J.; University of Maryland, Baltimore, 1870; aged 75; from 1885 to 1890 city physician of Jersey City; died, June 27, from arteriosclerosis.

Samuel John Hicks, Ivesdale, Ill.; Miami Medical College, Cincinnati, 1890; aged 57; a member of the Illinois State Medical Society; died, July 4, from cerebral hemorrhage.

James Maurice Hally, Denver; Bennett College of Eclectic Medicine and Surgery, Chicago, 1885; University of Colorado, Boulder and Denver, 1894; aged 76; died, May 26.

Warren Perry ⊕ Fairbury, Neb.; Jefferson Medical College, 1891; aged 56; local surgeon for the Burlington and St. Joseph and Grand Island Railroad; died, July 7.

Willard Chancery Earle, Waukon, Iowa; Jefferson Medical College, 1867; aged 88; also a druggist; a veteran of the Civil War; died recently at St. Petersburg, Fla.

Preston Boggs, Franklin, W. Va.; University of Maryland, Baltimore, 1896; aged 52; in 1912 president of the Pendleton County Board of Health; died suddenly, June 19.

Joseph Pierre Morneau, Appleton, Wis.; Laval University, Quebec, 1899; aged 46; died, June 1, from lobar pneumonia.

⊕ Indicates "Fellow" of the American Medical Association.

Edwin H. Lodge, Grosse Point Farms, Detroit; New York Homeopathic Medical College, New York, 1871; aged 72; once president of Grace Hospital; died, July 3.

William B. Conway, College Park, Ga.; College of Physicians and Surgeons, Baltimore, 1869; aged 71; died at the home of his daughter in College Park, July 6.

James A. Hazle, Freeport, Kan. (license, Kansas Board of Medical Examiners, 1901); aged 65; a practitioner for forty years; died, April 24, from arteriosclerosis.

Harry F. McK. Shannon, Tygh Valley, Ore.; University of Oregon, Portland, 1913; aged 32; a member of the Oregon State Medical Association; died, June 28.

Marion Dexter Follin, Johnsville, Ohio; Marion-Sims Medical College, St. Louis, 1892; aged 53; died in Lakeside Hospital, Toledo, May 23, from nephritis.

Earl P. Wagner ⊕ South Bend, Ind.; College of Physicians and Surgeons, Chicago, 1907; aged 45; for two terms coroner of St. Joseph County; died, July 1.

Milton S. Hopper, Gary, Ind.; Medical College of Ohio, Cincinnati, 1881; aged 69; a member of the Indiana State Medical Association; died, May 10.

Edward Henry Jewitt, Cleveland; Homeopathic Hospital College, Cleveland, 1878; aged 68; for twenty years a lecturer in his alma mater; died, July 7.

John Steinbach, Winona, Minn.; Northwestern University Medical School, Chicago, 1886; aged 64; a specialist in diseases of the eye; died, April 28.

Charles Albert Fritchey ⊕ Harrisburg, Pa.; Gross Medical College, Denver, 1901; aged 45; died in the Germantown Hospital, Philadelphia, June 24.

Edward B. Smith, Marion, S. C.; Medical College of Charleston, S. C., 1860; aged 81; died at Centenary, S. C., May 25, from senile asthenia.

Evans Scott, Holdenville, Okla.; Medical Department, University of Iowa, Keokuk, 1864; aged 85; a veteran of the Civil War; died recently.

Abram W. Mardis, Lebanon, Ohio; National Normal University, Lebanon, Ohio, 1890; aged 57; died in a hospital in Hamilton, Ohio, May 2.

Walter Henry Holdridge ⊕ New York; Columbia University, College of Physicians and Surgeons, New York, 1903; aged 39; died, July 3.

Jefferson D. Taylor, Louisville, Ky.; Kentucky School of Medicine, Louisville, 1882; aged 58; died, July 3, from pernicious anemia.

Walter John Habrowski, Pittsburgh; University of Pittsburgh, 1911; aged 33; also a pharmacist; died, June 15, from tuberculosis.

Charles B. Kohlhousen, Raton, N. M.; University of Virginia, Charlottesville, 1867; aged 63; died, April 19, from myocarditis.

Clayborn R. Carver, Eldorado, Texas; University of Arkansas, Little Rock, 1898; aged 63; died, June 8, from angina pectoris.

James O. Wood, Rio, Miss.; University of Alabama, Mobile, 1881; aged 72; died, April 4, from disease of the kidney.

Nelson Porter Freeman, Bridgewater, N. S.; University of Vermont, Burlington, 1891; aged 65; died, April 15.

Paul Octavius Owsley, Asheville, N. C.; Johns Hopkins University, Baltimore, 1899; aged 46; died, July 8.

Peter John Nathaniel Thelberg, New York City; University of the City of New York, 1887; died, June 7.

Eugene H. Wood, Bridgeport, Conn.; Long Island College Hospital, Brooklyn, 1886; aged 63; died, June 16.

James Flack Bell, Lonoke, Ark. (license, Arkansas State Medical Board, 1903); aged 65; died, May 21.

Thomas H. Bowles, Dumas, Ark.; Missouri Medical College, St. Louis, 1898; aged 65; died, May 22.

Hugo Schumann, Oakland, Calif.; American Medical College, Eclectic), St. Louis, 1876; died, June 30.

Walter W. Scofield ⊕ Dalton, Mass.; Albany, N. Y., Medical College, 1882; aged 66; died, July 7.

Benjamin F. Mott, Minneapolis; Eclectic Medical Institute, Cincinnati, 1874; aged 69; died recently.

Joseph P. Fitzpatrick, St. Louis; Missouri Medical College, St. Louis, 1889; aged 52; died, July 4.

Peter McLaren, Ormstown, Que.; McGill University, Montreal, 1872; aged 78; died, May 14.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE FRAUD ON THE PUBLIC AND ON THE PROFESSION

MORE MISBRANDED DRUG PRODUCTS AND NOSTRUMS

Some Seelye Nostrums.—The A. B. Seelye Medical Co., Abilene, Kan., shipped in July and September, 1917, "Seelye's Wasa-Tusa," "Dr. Seelye's Compound Extract of Sarsaparilla," "Seelye's Laxa-Tena," "Seelye's Cough and La Grippe Remedy," and "Seelye's Fluorilla Compound," which were misbranded. The Bureau of Chemistry of the Department of Agriculture analyzed samples of these nostrums. "Wasa-Tusa" was found to contain ammonia, chloroform, camphor, capsicum, aromatics, alcohol and water. It was falsely and fraudulently represented as a cure for rheumatism, lame back, tonsillitis, sore throat, cholera morbus, diphtheria, fever, indigestion, deafness and several other conditions "when, in truth and in fact, it was not." The "Compound Extract of Sarsaparilla" was found to contain potassium iodid and a small amount of plant extractives, aromatics, coloring matter, sugar, alcohol and water. This was falsely and fraudulently represented as a cure for scrofula, syphilis, tumors, female weakness and other conditions. "Laxa-Tena" was found to be a dark colored syrup containing essentially emodin-bearing (laxative) plant material, sugar, alcohol and water. It was falsely and fraudulently represented as a cure for jaundice, sour stomach, fever and ague and effective to remove the cause of appendicitis and to prevent fever. The "Cough and La Grippe Remedy" was found to be heavy sugar syrup containing plant material with small amounts of alcohol, chloroform and tar. It was falsely and fraudulently represented as a cure for influenza, whooping cough, asthma, phthisis and all affections of the throat and lungs and as a preventive, when used in connection with "Wasa-Tusa," of lung fever and pneumonia. "Fluorilla Compound" was to be a syrup containing laxative plant material, a small amount of alkaloids, sugar, alcohol and water. It was falsely and fraudulently represented as a cure for anemia, "languid habits in young girls budding into womanhood," amenorrhea, leucorrhoea, falling of the womb and other so-called female weaknesses. In March, 1919, the company pleaded guilty and was fined $50 and costs.—[*Notice of Judgment No. 6953; issued July 1, 1920.*]

Aspirin Tablets.—The Verandah Chemical Co., Brooklyn, shipped in November, 1918, 24 packages of a product purporting to be aspirin tablets. The article was labeled in part "Acetylsalicylic Acid Aspirin." These tablets were declared misbranded in that while they were labeled "Aspirin 5 gr." they contained no aspirin but did contain salicylic acid, corn starch, milk sugar, talc, calcium carbonate and a small amount of sodium citrate. In June, 1919, no claimant having appeared for the property, the court ordered that it should be destroyed by the United States marshal.—[*Notice of Judgment No. 6990; issued July 1, 1920.*]

Dr. Groves' Anodyne for Infants.—A quantity of "Dr. Groves' Anodyne for Infants" was shipped in interstate commerce January, 1917, by Smith, Kline & French Co., Philadelphia. The preparation, when analyzed by the Bureau of Chemistry, was reported to be essentially a sugar syrup, flavored with oil of spearmint and containing ⅛ grain of morphin sulphate to each fluidounce. The government officials charged that the product was misbranded because it was falsely and fraudulently represented "to be effective, among other things, to remove nervous irritation in children, to invigorate children before teething and to repair the waste caused by diarrhea and other affections in children during teething when, in truth and in fact, it was not." It was

further declared to be misbranded because it was falsely and misleadingly represented as "a reliable assistant to a mother in that it was a preparation which could be administered with perfect safety to infants, whereas in truth and in fact the article contained morphin sulphate, a drug which rendered the article unsafe to be administered to infants." It was further misbranded in that, while it contained alcohol and morphin, the carton failed to bear a statement of the quantity and proportion of these drugs, as required by law. In May, 1919, the company pleaded guilty and was fined $200.—[*Notice of Judgment No. 6986; issued July 1, 1920.*]

Cacapon Healing Water.—In October, 1918, 6 barrels and 40 kegs of Cacapon Healing Water were shipped in interstate commerce by the Capon Springs Co. of Capon Springs, W. Va. The water was declared by the federal authorities to be adulterated in that it consisted in part of a filthy,

A CHALLENGE TO ARTHUR BRISBANE

Druggists Who Want to Make Dollars Without Risk or Work Write Us Today

Cacapon Co. of Washington, D.C.

Cacapon Co. of Washington, D. C.

A full-page advertisement of Cacapon Water that appeared in the Washington (D. C.) *Times* in August, 1918.

decomposed and putrid animal and vegetable substance. Furthermore, it was declared misbranded because of the curative claims made for the stuff, for example:

"To be 100 per cent. efficient, drink Cacapon Healing Water Prescribed by Prominent Physicians for Bright's Disease, Kidney Troubles."

"Cacapon Healing Water . . . for Bright's Disease, Kidney Troubles, Indigestion, Diabetes, Calculi, Rheumatism, Women's Diseases, Stomach Troubles, Dyspepsia, Uric Acid, Gout, Urethral and Uterine Troubles."

"Has cured for centuries . . . rheumatic gout, syphilitic rheumatism and chronic inflammation."

These claims were declared by the federal authorities to be false and fraudulent and "made with a knowledge of their falsity and in reckless and wanton disregard of their truth" so as to mislead and deceive purchasers. In April, 1919, the court ordered that the product should be destroyed by the United States marshal and that the Cacapon Co., Washington, D. C., should pay the cost of the proceedings.—[*Notice of Judgment No. 6957; issued July 1, 1920.*]

Seawright Water.—In September, 1918, Seawright Magnesian Lithia Spring Co., Staunton, Va., shipped nine cases each containing 12 one-half gallon bottles of "Seawright Water" which was declared to be adulterated in violation of the Food and Drugs Act. Adulteration was alleged in the libel for the reason that the water consisted in part of a filthy and decomposed vegetable substance. No claimant appearing for the property, judgment of condemnation and forfeiture was entered in January, 1919, and the court ordered that the product should be destroyed by the United States marshal.—[*Notice of Judgment No. 6961; issued July 1, 1920.*]

Correspondence

"THE REPORTING OF VENEREAL DISEASES BY PHYSICIANS"

To the Editor:—The objection to many of the papers in THE JOURNAL is that they embody solely the swivel chair, or what is equally as objectionable, the laboratory point of view. I am prompted at the moment to make this criticism after reading Dr. William Edler's article on the reporting of venereal diseases (THE JOURNAL, June 26, 1920, p. 1764). His assurance reminds me of the Texas venereal law, which assumes that the man on the street as he runs can diagnose venereal disease. His article contains the same threat of revocation of license as the Texas law, notwithstanding that in Texas and in most states the statutes provide that a license can be revoked only on the commission of a crime of the grade of a felony. As an employee of the United States Public Health Service, Dr. Edler should know that the service will not accept a clinical diagnosis of venereal disease. Now, how many physicians can make a laboratory diagnosis, and how many laboratory experts will agree about the diagnosis or obtain a positive diagnosis when the clinical evidence is suspicious, should we turn our cases over to them? This is no rambling assertion, but the fruit of experience. An important case in the courts in this state recently illustrates the point. An expert and disinterested pathologist testified that the case was one of gonorrhea. Another witness, equally as expert and disinterested, said that it was not. One author says that the gonococcus must be intracellular and another that there must be pus on the slide for a positive diagnosis. When we encounter the Wassermann expert we are even more confused regarding our clinical diagnoses. Even a government clinic treated a man with herpes for syphilis. On a clinical diagnosis, a physician reported a married woman as having gonorrhea. The sequel showed that her discharge came from an appendical sinus, and the doctor was up against trouble.

Dr. Edler attributes his statements about outraged wives and violence to wrong sources or motives. The case cited above is the principal reason that causes physicians to be careful in reporting these cases. No law that I know of offers to back a physician in court in case he makes a wrong diagnosis, or if his diagnosis can be overthrown by a preponderance of witnesses. A physician who draws a salary and whose diagnoses are defended by the United States Public Health Service can afford to express positive views; but a great many of us have our living to make by the practice of medicine among our neighbors and must pay our own lawyers if we are forced to go into court.

J. H. MACKAY, M.D., Houston, Texas.

[A proof of the preceding was sent to Dr. Edler, who replies:]

To the Editor:—I had hoped in my paper on "The Reporting of Venereal Diseases by Physicians" to have covered the objections offered by the profession as I had heard them. That errors in diagnosis and drastic medicolegal consequences were an objection had not, up to this minute, come to my attention.

Exceptionally, I readily agree, venereal disease diagnostic difficulties are encountered. Similarly, the same enigma is encountered in all specialties. I, too, have seen experts disagree on the diagnosis of scarlet fever, smallpox and meningitis, but I always felt that the community, and not the patient, deserved the benefit of the doubt.

In its acute and most communicable stage, "the man on the street as he *runs*" (accent on the last word) can fairly accurately diagnose his malady. I feel sure that out of several

hundred thousand cases of venereal diseases reported, the legal complications have been practicably negligible. My information is that from the lowest to the highest courts the venereal disease laws, even to the point of seizure of person, have invariably been sustained.

I am convinced that if a malpractice suit were instituted against the physician for a mistake in diagnosis, the court would condone his mistake "if he exhibited the skill, care and ability of the average physician in his community." No doubt his state medical society would defend his suit to the limit, and likewise his state board of health, if the suit originated from a report to its office.

The Louisiana medical practice act authorizes the revocation of the physician's license for violation of the venereal disease laws. I hope that some day the American Medical Association will expel from membership physicians who do not report communicable diseases. Shirking obligations of physicians to each other is no more a violation of ethics than criminally contributing to the dissemination of disease—be it venereal or otherwise.

WILLIAM EDLER, M.D., New Orleans.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TUBERCULOSIS JOURNALS—ARREST OF PULMONARY HEMORRHAGES

To the Editor:—1. Please let me know the names and addresses of medical journals devoted to tuberculosis in the United States as well as Europe.

2. Is there any special apparatus used in American sanatoriums for arresting pulmonary hemorrhages, and if there is, please let we know the name of the manufacturer.

JORGE SAÉNZ, M.D., Costa Rica.

ANSWER.—1.

American Review of Tuberculosis, 2419 Greenmount Avenue, Baltimore. Monthly; $3.
Journal of the Outdoor Life, 381 Fourth Avenue, New York. Monthly; $1.50.
Tubercle, London. Monthly; 25 shillings.
British Journal of Tuberculosis, 151 West 25th Street, New York. Quarterly, $1.25.
Archivos Españoles de Tisiologia, Diputación, 211, Barcelona, Spain. Thirty pesetas.
Revista de Higiene y de Tuberculosis, Juan de Austria, 12, Valencia, Spain. Twelve ptas.
Revista de Tuberculosis, Calle Colón, 7. Valencia, Spain. Ten ptas.
Revista de Tisiologia, Murcia, Spain. Twelve ptas.
Tuberculose, s'Gravenhage, Holland.
Zeitschrift für Tuberculose, Dorrienstrasse 16, Leipzig, Germany. Thirty marks.
Beiträge zur Klinik der Tuberkulose, Würzburg, Germany.
Internationales Centralblatt für die gesamte Tuberkulose Forschung, Würzburg, Germany.
Tubercolosi, Milan, Italy.
Tuberculosis, Internationales Centralbureau zur Bekämpfung der Tuberkulose, Berlin, Germany. (This is the organ of the International Tuberculosis Society.)

Before the war there were published other tuberculosis journals in France and Italy, but no copies have been received recently.

2. The only apparatus mentioned for such purpose is the device used in producing artificial pneumothorax. These devices may be obtained from any of the medical supply houses advertising in THE JOURNAL.

TREATMENT OF LEPROSY

To the Editor:—Can you give me some information on the results obtained in the leper colony of Hawaii with the new method for increasing the tolerance of patients to large doses of chaulmoogra oil? Please omit my name.

P. P. A., Colombia.

ANSWER.—At the recent conference of state and territorial health authorities with the U. S. Public Health Service, Dr. G. W. McCoy, the director of the Hygienic Laboratory, stated that the results obtained in the treatment of lepers at the leprosy investigation station in Kalihi, Hawaii, with the ethyl esters from chaulmoogra oil had been encouraging. Following a course of treatment extending over about a year, forty-eight lepers treated according to the new method were paroled in October, 1919, and up to now have remained free from the disease. It will require, however, some time—probably years—to determine whether a real cure for leprosy has been discovered.

The treatment employed was described in the *Journal of Cutaneous Diseases* in articles by H. T. Hollmann and A. L. Dean, the authors concluding that in the use of the ethyl ester of the fatty acids of chaulmoogra oil, subcutaneously, we have a method of treatment superior to subcutaneous injection of the chaulmoogra oil mixtures.

In the *Indian Medical Gazette* for April, 1920, recently abstracted in THE JOURNAL, there appeared a series of articles on the treatment of leprosy, one of which was by Rogers on the use of an ethyl ester of the unsaturated fatty acids of cod liver oil in both leprosy and tuberculosis with apparently distinctly favorable results, although it is recognized that much further experience will be necessary before the exact value of the new preparation can be determined.

"CHLORINATION OF WATER SUPPLIES"

To the Editor:—Referring to the editorial on "Chlorination of Water Supplies" which appeared in THE JOURNAL (Spanish Edition, Jan. 1, 1920), I should like to get more details in regard to this method of water disinfection.

ALFONSO QUIÑONEZ, M.D., San Salvador.

ANSWER.—A list of articles on the purification of drinking water appeared in THE JOURNAL, June 7, 1913, page 1813. Articles published since that date follow:

Whittaker, H. A.: Use of Hypochlorite Capsules for Treatment of Small Quantities of Drinking Water, *Am. J. Pub. Health,* August, 1914.
Liquid Chlorin and Water Sterilization, Current Comment, THE JOURNAL, July 25, 1914, p. 327.
Chlorin Treatment of Water Supplies, editorial, THE JOURNAL, July 10, 1915, p. 174.
Jordan, E. O.: The Purification of Water Supplies, THE JOURNAL, Feb. 12, 1916, p. 467.
Cheap Alum for Water Purification, Current Comment, THE JOURNAL, Jan. 27, 1917, p. 293.
Water Purification, Queries and Minor Notes, THE JOURNAL, Feb. 24, 1917, p. 653.
Making Water Safe for Drinking Purposes, Queries and Minor Notes, THE JOURNAL, Oct. 13, 1917, p. 1291.

LABELS ON GLASS

To the Editor:—Kindly give a method of preparing ink for marking labels on gross tissue specimens which will not be washed off by immersion in the formaldehyd in which the specimens are preserved.

Please omit name and address.

S. A. L.

ANSWER.—The glass surface to be labeled should be free of grease. Any ink may be employed. A coat of thin alcoholic solution of shellac or of balsam should be applied over the ink.

OLDEST MEDICAL ORGANIZATION

To the Editor:—What is the oldest medical organization in the United States?

A. S. A.

ANSWER.—The Medical Society of New Jersey was organized in 1766. This is the oldest state medical society of which we have record. Before this date there were minor societies in Boston and elsewhere.

Proposed Health Museum.—W. J. Simpson, professor of hygiene and public health in King's College, London, has suggested the establishment of such a museum to celebrate the means by which we can triumph over preventable disease. In such a museum the causes of preventable disease and the means by which they can be prevented would be illustrated practically. The museum would be open to all. Lectures and demonstrations illustrated by models and the cinematograph should be given, and there should be attached a bureau of information.—*Medical Press and Circular* **109**:105 (Feb. 11) 1920.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Alaska: Juneau, Sept. 7. Sec., Dr. Harry C. De Vighne, Juneau.
Hawaii: Honolulu, Sept. 6-10. Sec. Dr. R. W. Benz, 1141 Alakea St., Honolulu.
Illinois: Chicago, Sept. 20-23. Director, Francis W. Shepardson, State House, Springfield.
New Hampshire: Concord, Sept. 9-10. Sec., Dr. Charles Duncan, Concord.

New York January Examination

Mr. Herbert J. Hamilton, assistant, professional examinations, New York State Board of Medical Examiners, reports the written examination held at New York, Buffalo, Albany and Syracuse, Jan. 27-30, 1920. The examination covered 8 subjects and included 10 questions. An average of 75 per cent. was required to pass. Of the 169 candidates examined, 90 passed and 79, including 1 osteopath, failed. The following colleges were represented:

College	PASSED	Year Grad.	Number Licensed
Yale University		(1919)	1
Howard University		(1918)	1
Atlanta Medical College		(1914)	1
Rush Medical College		(1895), (1916)	2
University of Kansas		(1912)	1
College of Physicians and Surgeons, Baltimore		(1912)	1
Johns Hopkins University		(1915), (1916), (1918, 2)	4
University of Maryland		(1917)	1
Boston University		(1904)	1
Harvard University		(1918)	3
Tufts College Medical School		(1914), (1917), (1919)	3
Univ. of Michigan Homeopathic Med. School		(1917), (1919)	2
University of Nebraska		(1919)	1
Albany Medical College		(1917, 2), (1918)	3
Columbia University		(1914), (1915), (1916), (1917, 5), (1918, 2), (1919, 4)	14
Cornell University		(1918), (1919, 3)	4
Fordham University		(1913), (1916), (1917), (1918), (1919)	5
Long Island College Hosp.		(1915), (1917), (1918), (1919, 5)	8
New York Homeopathic Medical College and Flower Hospital		(1913), (1915), (1918, 2) (1919, 2), (1920)	7
University and Bellevue Hospital Medical College		(1910), (1915), (1917), (1918), (1919, 6)	10
Eclectic Medical College, Cincinnati		(1916)	1
University of Cincinnati		(1919)	1
Jefferson Medical College		(1899), (1916), (1917, 2)	4
University of Pennsylvania		(1918)	2
Vanderbilt University		(1919)	1
Medical College of Virginia		(1915)	1
Queen's University		(1919)	2
University of Toronto		(1916)	1
McGill University		(1915), (1918, 2)	3
Syrian Protestant College, Beirut		(1917)	1
	FAILED		
Yale University		(1916), (1917), (1918)	3
Georgetown University		(1913)	1
Howard University		(1912), (1913), (1918, 3)	5
Chicago College of Medicine and Surgery		(1914)	1
College of Physicians and Surgeons, Chicago		(1902)	1
Northwestern University		(1918), (1916)	2
University of Illinois		(1917)	1
University of Louisville		(1915)	1
Johns Hopkins University		(1916), (1918)	2
University of Maryland		(1911), (1917)	2
Harvard University		(1908)	1
Tufts College Medical School		(1915, 2), (1916), (1917, 2)	5
University of Michigan Homeopathic Medical School		(1918)	1
University of Minnesota Medical School		(1917)	1
Washington University Medical School		(1917)	1
John A. Creighton Medical College		(1916)	1
Dartmouth Medical School		(1902)	1
Albany Medical College		(1916)	2
Columbia University		(1916), (1919, 5)	6
Cornell University		(1918)	1
Fordham University		(1917), (1918, 3)	4
Long Island College Hospital		(1919)	2
New York Homeopathic Medical College and Flower Hospital		(1914), (1915, 2), (1916, 4), (1917, 3), (1918,2), (1920)	13
University and Bellevue Hospital Medical College		(1918), (1919)	2
Eclectic Medical College, Cincinnati		(1915)	1
University of Oklahoma		(1915)	1
Jefferson Medical College		(1915)	1
University of Pennsylvania		(1903), (1917, 2)	3
Women's Medical College of Pennsylvania		(1916)	1
Vanderbilt University		(1913), (1914, 2), (1918)	4
University of Vermont		(1916)	1
Medical College of Virginia		(1914), (1915)	2
Queen's University		(1919)	1
University of Havana		(1917)	1
University of Bologna		(1912)	1
University of Bogota		(1908)	1

Mr. Hamilton also reports that 14 candidates were licensed by endorsement of their credentials. Of these 6 were granted licenses by reciprocity with other states, 7 by endorsement of their licenses on the basis of eminence and authority in the profession, and 1 candidate was granted a reregistration license. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Bennett Medical College		(1912)	Indiana
University of Maryland		(1899)	New Jersey
Columbia University		(1915)	Ohio
Ohio State University College of Medicine		(1916)	Ohio
University of Toronto		(1907)	Indiana
University of Catania		(1912)	Virginia

College	LICENSED BY ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
Cooper Medical College		(1904)	California
Georgetown University		(1900)	Dist. Colum.
Northwestern University		(1907)	Illinois
Louisville and Hospital Medical College		(1908)	Louisiana
St. Louis University School of Medicine		(1904)	Missouri
University of Pennsylvania		(1903)	Penna.
University of Valladolid		(1881)	Porto Rico

Illinois March Examination

Mr. F. C. Dodds, superintendent of registration, Illinois Department of Registration and Education, reports the written and practical examination held at Chicago, March 1-4, 1920. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 118 candidates examined 102 passed and 16 failed. Seventeen were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Number Licensed
Chicago Hospital College of Medicine	(1918,5)	(1920)	6
Hahnemann Medical College and Hospital, Chicago		(1920)	5
Chicago College of Medicine and Surgery		(1917)	1
Loyola University	(1919, 2), *(1920, 13)		15
Northwestern University		(1917)	1
Rush Medical College	(1917, 3), (1919), *(1920, 56)		60
University of Illinois	(1918), (1919), (1920, 2)		4
Hospital College of Medicine, Louisville		(1905)	1
Detroit College of Medicine		(1904)	1
University of Minnesota, Medical School	*(1919)		1
National University of Arts and Sciences		(1914)	1
St. Louis University, School of Medicine		(1919)	1
University of Toronto	(1909), (1916)		2
Victoria University		(1893)	1
University of Vienna		(1910)	1
University of Padua		(1917)	1
	FAILED		
Denver Homeopathic College		(1904)	1
Chicago College of Medicine and Surgery		(1913)	1
Chicago Hospital College of Med.	(1915, 1), (1918, 2)	(1919)	4
Loyola University		(1916)	1
Northwestern University Women's Medical School		(1887)	1
Detroit College of Medicine		(1900)	1
Kansas City Medical College		(1897)	1
Meharry Med. College	(1913), (1914), (1915, 2), (1917), (1919)		6

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago		(1912)	Washington
Hahnemann Medical College and Hospital, Chicago		(1912)	Indiana
Rush Medical College		(1914), (1907)	Wisconsin
Indiana University		(1910)	Indiana
Keokuk Medical College		(1907)	Iowa
State University of Iowa College of Homeo. Med.		(1910)	Iowa
State University of Iowa Coll. of Medicine		(1909), (1914)	Iowa
University of Louisville	(1909)	Kentucky, (1911)	Indiana
University of Michigan, Homeopathic Medical Sch.		(1913)	Michigan
University of Minnesota Medical School		(1913)	Minnesota
Eclectic Medical Institute, Cincinnati		(1906)	Arkansas
Ohio State University, College of Medicine		(1918)	Ohio
University of Pennsylvania	(1876)	Kansas, (1904)	Penna.

*Degrees for these candidates have been withheld pending completion of their hospital internships.

Hawaii May Examination

Dr. J. R. Judd, secretary, Hawaii Board of Medical Examiners, reports the written examination, held at Honolulu, May 10-13, 1920. The examination covered 8 subjects and included 64 questions. An average of 75 per cent. was required to pass. Of the 9 candidates examined, 3 passed and 6 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Detroit Homeopathic College		(1909)	75.6
Chiba Special Medical School		(1913)	81.2
Osaka Prefecture Higher Medical School		(1907)	78.1
	FAILED		
George Washington University		(1907)	68.7
Bennett College of Eclectic Medicine and Surg.		(1898)	58.7
Rush Medical College		(1920)	76.1
Dartmouth Medical School		(1904)	67.5
Nagasaki Special Medical School		(1906)	65.6
Osaka Prefecture Higher Medical School		(1914)	48.1

Miscellany

THE FLIGHT SURGEON

A New Specialist in Medicine

W. L. SHEEP, M.D.
Major, M. C., U. S. Army
WASHINGTON, D. C.

The flight surgeon bears the same relation to aviation as does the specialist in preventive medicine to mankind in general, in that the two are concerned with the prevention of disability and the maintenance of physical efficiency. As a knowledge of diseases is essential in order to make intelligent efforts for their prevention, so a knowledge of the special ailments to which the flier is subject is necessary in order that they may be prevented or reduced to a minimum.

When the United States entered the World War and there began an immediate and great increase in aviation activities, it early became apparent that, after men had undergone a thorough and special physical examination and were found fit to fly, the most important work of the Medical Division of the Air Service was to keep these selected men under constant supervision to see that they remained fit to fly, and to remove from flying those who became unfit. The necessity for such a procedure was made obvious by a report from overseas that the British, French and Italians, by information derived from carefully compiled statistics, had come to the conclusion that 90 per cent. of aviation casualties was due to troubles with the fliers, 8 per cent. to defective aeroplanes, and 2 per cent. to the Huns; further, that by proper medical supervision of fliers, the British in two years reduced this 90 per cent. of casualties to 12 per cent.

These so-called "troubles" of the fliers were made the subject of special study by competent experts. Medical officers were assigned to duty at flying fields for the purpose of obtaining all possible information concerning ills and accidents of fliers, research laboratories for study and experimentation were established at certain of the fields, frequent reexaminations of fliers were conducted, and all of the knowledge acquired thereby was assembled and put into shape for the training of medical officers who were to qualify for the special medical work required by the Air Service. Thus there evolved a new specialist in medicine—the flight surgeon.

The program for the training of many medical officers as flight surgeons for assignment to overseas squadrons was interrupted by the signing of the armistice. The work of the pioneer flight surgeons who were on duty during the war at Air Service stations in the United States was of great value. New to duties not clearly defined, their status not always understood, the importance of their services at first not fully appreciated, they showed keen enthusiasm and marked intelligence in the performance of their tasks and, by practical demonstration of their worth, paved the way for the establishment on a permanent basis of the office of the flight surgeon. Further, these pioneers rendered reports of their observations and experiences which have been of great assistance in formulating the present system of instruction prescribed for medical officers who desire to qualify as flight surgeons.

This instruction is given at the central Medical Research Laboratory, and consists of lectures, demonstrations and practical work in normal physiology of respiration and circulation and in the physiology of respiration and circulation of the flier when exposed to high altitudes. The ability to differentiate the arrhythmias and all types of valvular heart disease is acquired from clinics and lectures. Methods of new and special examinations of the ophthalmologic and otologic apparatus are taught, and each student flight surgeon is required to make a number of complete examinations of the eye and the ear. In psychiatry the general field is covered by lectures and clinical work, and special attention is devoted to the making of personality studies. In psychology the instruction consists of a study of elementary psychologic methods and the psychology of aviation, a subject which has to do with the mental adaptability of the flier to the work required of him. In physics, such matters as oxygen supply apparatus, aviators' goggles, and the rebreathing apparatus for the detection of staleness and the classification of fliers, are given study and practical demonstration. The whole course of instruction requires two months of intensive work.

After its completion, and on being assigned to flying fields for duty, flight surgeons are encouraged to take flying instruction and to qualify as air pilots. They can thus by experience in the air comprehend the psychology of flying. From the study of the sensations produced during flight they gain a wealth of information of inestimable value in dealing with fliers under their charge. They have a true appreciation of the stress which at all times the flier undergoes, the symptoms brought on by flying at high altitudes, and the physical and mental exhaustion incident to prolonged flights. They may acquire a personal knowledge of the manifestations of flying "staleness," that most insidious and dangerous ailment of fliers, which may exist when the subjects themselves are not aware of it, but which the competent observer usually detects without difficulty. Further, they have a bond in common with their fellow fliers, and it has been observed that on this account greater confidence is reposed in them by the fliers.

Of the forty flight surgeons now on duty at Air Service stations, twenty-nine are on flying status, which requires that, either as passengers or pilots, they take a minimum of ten flights a month. Of these twenty-nine there are seven who are qualified pilots and five who are now taking instruction to qualify as pilots.

The duties of the flight surgeon are prescribed officially as follows: "The duty of the flight surgeon is to act as adviser to the commanding officer of flying schools and squadron groups. Although under the post surgeon, he has the freedom of independent initiative in all questions of flying fitness of aviators or cadets. Subject to the approval of the commanding officer, he is expected to institute such measures as periods of rest, recreation and temporary excuse from duty as may seem to him advisable. He takes sick call for aviators and cadets, and recommends a disposition of cases excused from duty. He will visit such cases as may be in the hospital at the post, and consult with the attending medical officer regarding them. From time to time he will make routine reexaminations of aviators and cadets, also such special examinations as he may deem advisable, being assisted therein by data furnished by the Medical Research Laboratory. He will live in as close touch with the aviators and cadets at his station as is consistent with the conditions."

The flight surgeon should be out on the line with the fliers during the hours that flying is actively engaged in. The mechanicians look over the engine, the control gears, the struts and the wings of the aeroplane before it is taken out for flight; how much more important it is that the flier, the "heart and brains of the whole flying apparatus," as one flight surgeon expresses it, should be talked with and critically, if but momentarily, observed, before he is allowed to go up into the air.

On recommendation of the flight surgeon, the commanding officer of an Air Service station may at any time remove a man from flying duty. While the most important part of the flight surgeon's work is in instituting measures for keeping fliers in good physical condition, it is worth while to state that of 1,500 fliers in the United States in 1919 of whom there

is a record, 808 were temporarily disqualified for flying on account of physical disability, and thirty were permanently disqualified.

The flight surgeon is required to prepare and send in to the office of the chief surgeon, Air Service, at frequent intervals, standardized reports on fliers. Several of these reports deserve special mention in that the information they furnish gives an idea of the valuable statistics which the central office is enabled to compile. The "Crash" report, sent in from a station whenever there is an injury to a flier or serious damage to an aeroplane, covers the date of beginning of training of flier; hours of dual and solo instruction; hours flown during past month; duration of last flight; number of previous crashes; result of crash; cause of crash; type of plane, etc. The "Care of Flier" report is submitted weekly from each station. It gives the total number of fliers on duty at the station; the number of hours of flying; number of fliers temporarily removed from flying duty by the commanding officer on recommendation of the flight surgeon; cause of disability in each case reported on; statement as to whether physical examination records are on file for all fliers at the station, etc. The "Physical Examination for Flying" report on each flier is sent in semiannually and covers a thorough and complete physical examination, embracing the new standards required for the examinations of the eye, the ear and the nervous system.

The official status of the flight surgeon is prescribed in the following instructions, which have been issued by the director of Air Service to commanding officers of Air Service stations:

"1. Commanding officers of Air Service stations where flying is being carried on will consult with the flight surgeon in all matters pertaining to the mental and physical fitness of the flying personnel of his command. The term 'flying personnel' will include all who make aerial flights, such as instructors, flying officers, and individuals undergoing flying instruction.

"2. Commanding officers will take full advantage of the assistance that can be rendered by the flight surgeon of his field. Such matters as the amount and kind of physical exercise required by individuals engaged in flying; the state of fatigue of the individual flier; the amount of sleep necessary; food problems; reexaminations, and all field conditions affecting the welfare of the flying personnel will be made the subject of conference between the commanding officer and the flight surgeon. Commanding officers should obtain the recommendation of the flight surgeon on applications for leaves or furloughs from those engaged in flying when physical incapacity is made the basis of application.

"3. The flight surgeon will be listed on any form for clearance in vogue at an Air Service station, and no flying officer or any one undergoing flying instruction will be transferred from a station without first obtaining a clearance from the flight surgeon. On notification of transfer, the flight surgeon will forward to the flight surgeon of the new station the reexamination report and laboratory rating chart of the individual being transferred.

"4. Flight surgeons will be encouraged in every way to take flying instruction. On completion of the prescribed tests, flight surgeons will be rated in the same manner as other flying officers. Applications for flying training should be made through the surgeon to the station commander, and will be accompanied by the necessary report of physical examination.

"5. On recommendation of the surgeon, station commanders will authorize medical officers of the command, who are physically qualified and make application, to take flying instruction. This will enable one of these officers to take the place of the flight surgeon when the latter for any reason is not available for that duty.

"6. Unless an absolute necessity exists therefor, flight surgeons will not be diverted from their regular duties to perform routine post duties when this service can be performed by other medical officers. Flight surgeons should devote all the time possible to the close and constant supervision over flying personnel.

"7. The flight surgeon of an Air Service station will not be detailed as a member of a board of officers convened to examine into the efficiency of a flying officer when it can be avoided. His services will be of more value when called before a board as an expert witness to give testimony relative to physical fitness, etc., of the officer under investigation."

The flight surgeon has come to stay. Instances without number of the practical value of his work could be related. In an analysis of statistics of 1,250 crash reports rendered by flight surgeons, which covers a period from July 1, 1918, to Jan. 1, 1920, and which includes reports on crashes from all stations in the United States at which flight surgeons were on duty, the cause of crash due to physical impairment of fliers, when definitely ascertained to have existed, is given as only 2 per cent. Forty-seven per cent. is reported as due to "poor judgment." It is probable that a relatively small number of these crashes were due to physical impairment, but for lack of more exact information, were not placed in that class.

Undoubtedly the work of the flight surgeon has resulted in the saving of many lives and much valuable property.

Office of Chief Surgeon, Air Service.

OPHTHALMOLOGIC TEACHING

At the annual congress of the Ophthalmological Society of the United Kingdom, the president, Mr. J. B. Story, delivered an important address on this subject. He said that the Council of British Ophthalmologists had already urged the General Medical Council to adopt two reforms—first, to make three months' attendance at an ophthalmic clinic obligatory, and secondly, to have an examination by ophthalmic surgeons as part of the final examination. The General Medical Council accepted the first and rejected the second, a most astonishing thing to those who know well that medical students have no time to waste on subjects that are not necessary and in which examination is not compulsory. There are two reasons why a certain knowledge of ophthalmology is necessary for every person permitted to practice: (1) because the vast majority of physicians cannot escape from having to diagnose and treat diseases of and injuries to the eye when no specialist can be obtained, and (2) because in many serious diseases the evidence afforded by ocular conditions is most important, and often the ocular symptoms are those which induce the sufferer to seek medical advice. For instance, interstitial keratitis may be the first evidence of infantile syphilis, even before the eruption of the teeth described by Jonathan Hutchinson; and acquired syphilis may show itself in the choroid, iris or retina long after the patient has forgotten the primary disease completely. Ocular tuberculosis may be the first visible manifestation of that disease, and the ocular signs are important in tabes, disseminated sclerosis, meningitis and other intracranial lesions, diabetes, nephritis and arteriosclerosis, to mention only a few serious and not uncommon affections. In many of these the ocular signs may be mainly naked-eye appearances or fairly easily observed ophthalmoscopic lesions. The final decision of the General Medical Council is said to be that the hospitals should, or may, refuse certificates to students who do not acquire sufficient knowledge, thus shuffling off the responsibility thrown on it by act of Parliament and placing it, not on the licensing bodies over which it has control, but on the medical staffs of hospitals. It has been objected that if an examination in ophthalmology is instituted at the final, it will overload the curriculum, and that other special branches of surgery will claim a similar privilege.

As regards the first objection, the special clinical examination has been the rule in every one of the Irish licensing bodies for some thirty years, and has not caused overloading. As regards the second, it has already been pointed out how great is the importance of ocular signs and symptoms in serious constitutional diseases, an importance much greater than can be assigned.

Book Notices

NEITHER DEAD NOR SLEEPING. By May Wright Sewall Urthan. Introduction by Booth Tarkington. Cloth. Price, $2.50. Pp. 320. Indianapolis: The Bobbs-Merrill Company, 1920.

The author of this latest addition to the host of books on spiritualism is a woman who—according to the advertisements—for many years headed a well known girls' classical school, was organizer of the National Council of Women of the United States and of the International Council of Women, and was for nine years chairman of the executive committee of the National Women's Suffrage Association. It is interesting to reflect on the fact that during all the time that she was carrying out such work, she was apparently living in a maze of unrealities, in a veritable dream state. Evidence of her credulity in matters spiritualistic is the following incident:

> One evening as we sat in the library in ordinary conversation, with the expectation that later her gift of automatic writing might be used in my service, I told her of the scenes I had witnessed at Oberammergau in August, and showed her some photographs of the chief actors. Holding out to her a photograph of Judas, I asked her to look at it and compare it with another face that we had been analyzing. Reaching out her hand she said, "Where is it?"
>
> I replied, "Why you took it from my hand."
>
> "No, I took nothing; I extended my hand to take it, but although I saw the photograph in your hand there was nothing for me to take."
>
> This seemed incredible to us, for it was for both the first experience of "instantaneous disintegration."
>
> We were alone in the room, of which neither door nor window was open. I had held the photograph studying and discussing it before, and while I passed it to my friend, who, seeing it in my hands, found nothing there when her hand reached mine! We looked everywhere, removing every paper from the desk by which we sat, going over and over again the basket holding my summer's harvest of photographs. It was nowhere to be found. When very late, the automatic writing began, my husband's first sentence was, "It is useless for you to look for the photograph of Judas; ———— took it."
>
> In amazement, I cried: "————! How can that be? What does he want with it?"
>
> My husband replied, "It was a singular thing for ———— to do; but he wished to show it to Judas; he has done so and Judas is not at all pleased with it."
>
> In reply to further expression of incredulity, protests and questions, my husband said, "———— promises to return the photograph when you least expect it."
>
> In May, 1901, while in New York attending a conference of the officers of the National Council of Women, I spent an evening with my friend Miss G., who produced automatically a dictation from my husband for me. On this occasion I had made no reference to the incident narrated above, but my husband wrote: "———— has been prevented from returning the photograph of Judas by the fact that the latter feels deeply offended by its production and is unwilling that a photograph which he regards as a caricature shall be restored and preserved."

Aside from its general interest for the neurologist and psychiatrist, a feature of medical interest is the fact that the author was a sufferer from interstitial nephritis, as she states, and that she was cured by following the directions—communicated mediumistically—of a physician of the middle ages, now residing in one of the spheres of one of the planes to which mortals pass when leaving this terrestial home. These instructions caused her to take materialistic massage treatments from a Swedish masseur, vapor baths and exercises. They also caused her to undergo periods of starvation and to secure mental relaxation by the study of piano playing under spiritualistic instruction of the great Anton Rubinstein, also residing in one of the spheres of one of the planes. It may be said that Mrs. Sewall's chief communicant from the shores beyond was her husband, who died in 1895, and who has been communicating regularly with her ever since. The communications have come through trumpet-speaking, slate-writing, automatic writing, ouija boards, or the other trumpery methods indulged in by professional mediums. In her converse with those who have gone before, Mrs. Sewall spoke with numerous celebrities, including, incidentally, Mesmer. Many of her conversations are interesting as literary curiosities. The book is an amazingly fantastic document. It is a pity that such books are advertised to and are being read by many persons of uncritical judgment.

THE DIAGNOSIS OF NERVOUS DISEASES. By Sir James Purves Stewart, K.C.M.G., C.B., M.D., Senior Physician to the Westminster Hospital. Fifth edition. Cloth. Price, $11. Pp. 584, with illustrations. New York: E. B. Treat & Company, 1920.

This well known and excellent work well deserves to appear in a new edition. As stated in the preface, "from the kindly reception accorded to former editions of this work, it is not unreasonable to infer that it has probably been found of some practical use." As indicated in the title, this is strictly a book on diagnosis. Chapters are devoted to various symptoms, such as coma, convulsions, aphasia, pain, reflexes, postures and gaits. Chapters on war neuroses and organic war lesions of the nervous system have been added. Lethargic encephalitis is lucidy considered in its various relations. As an example of the author's broadness of view we may mention that in discussing the difficult differentiation between chorea, facial tic and facial spasm he brings out the valuable diagnostic points and interpretations contributed by French and American observers. In fact, this author is singularly free from being "insular" in his views and knowledge. Any contribution which has proved fruitful in neurology is given a fair mention, whether emanating from home or abroad, from friend or foe. Freudians may complain that sufficient stress is not laid on the value of psychanalysis in the diagnosis of the neuroses; but the author's conservatism in this regard is shared by the overwhelming majority of neurologists everywhere. The publishers' work as regards print and illustrations also deserves praise.

THE FACULTY OF THE COLLEGE OF PHYSICIANS AND SURGEONS, COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK. Twenty-Four Portraits. By Dorris U. Jaeger, with a Foreword by Samuel W. Lambert, M.D., A.B., A.M. Boards. Price, $10. New York: Paul B. Hoeber, 1919.

This is a well worked up volume containing a frontispiece showing the entrance to the College of Physicians and Surgeons of Columbia University; a foreword by Dr. Samuel Lambert, and, following this, twenty-four large portraits of the chief members of the present faculty. The portraits are nicely printed rotogravures, with artistic backgrounds. Not all are so clear as they might be, and it would seem that clearness of the features has been somewhat sacrificed to artistic presentation. Similar publications were issued by the college in 1846 and in 1875. As evidence of the decided historical value is the fact that the 1846 picture contains the photographs of Willard Parker, John B. Beck, Alex Stevens, Joseph M. Smith, John Torrey, Robert Watts and Chandler R. Gilman, and the group of 1875 contains the pictures of T. Gaillard Thomas, Thomas M. Markoe, Alonzo Clark and John C. Dalton. If every institution of importance could publish a similar work occasionally—say every twenty-five years—the results would form a record of decided personal interest and of historical value. To the medical graduate of any college it means much to have a permanent memento of his teachers in such a satisfactory form. Columbia University is to be congratulated on having set such an excellent pace to the movement as is marked by the high quality of the present volume.

PERSONAL BEAUTY AND RACIAL BETTERMENT. By Knight Dunlap, Professor of Experimental Psychology in the Johns Hopkins University. Cloth. Price, $1. Pp. 95. St. Louis: C. V. Mosby Company, 1920.

This is a reprint of an address delivered before several different organizations during April, 1917, and later published in the *Psychological Review* for May, 1918. The address is divided into two parts covering the significance of beauty and the conservation of beauty. It indicates the author's belief that the predominant ideal in marriage is the procreation of children, and it calls attention to various unsatisfactory conditions of present sex relationship. It does this through defining the factors governing sex attraction and marriage. It is a well written thesis.

Medicolegal

Effect of Receiving Check "In Full of Account"

(Booth v. Dougan (Mo.), 217 S. W. R. 326)

The St. Louis (Mo.) Court of Appeals affirms a judgment in favor of the defendant, who was sued by a physician for a balance of $447 claimed to be due on account after the physician had indorsed and collected through the bank a check for $200 reading "In full of account to date," which the defendant had sent to him. The court recognizes the rule to be that when a certain sum is due from one to another, the payment of a lesser sum is no discharge as to the remainder, notwithstanding an agreement to that effect, because the latter agreement is without consideration. But such rule, the court says, does not apply when the amount due is disputed or unliquidated. When a claim is unliquidated, any sum, no matter how small, given and received in satisfaction of the demand, will legally satisfy it, however large the claim may be. A debt or demand is liquidated when agreed on by the parties or fixed as to the amount by the operation of law. The account in this case was made up of charges for visits made by the plaintiff, as a physician in attendance on the defendant and his family, from Nov. 4, 1911, to May 30, 1915, and totaled $1,347, on which payments were credited, of $200 in 1912, $200 in 1913, $300 in 1914, and $200 in 1915. It was admitted at the trial that it was not necessary for the plaintiff to prove each of his items in detail, but that it would be conceded that he would testify to the correctness of each item. The defendant contended, however, that the last payment was made by him and accepted by the plaintiff as in full of all amounts due the plaintiff. In no sense could this be said to have been a liquidated account. While it was true that the defendant did not dispute that the services had been rendered and that the charges made for them were reasonable, he nowhere admitted that he owed them. On the contrary, when his attention was called to the account rendered just before he sent his check for the last payment, he called the plaintiff's attention to the fact that they had before settled on a compromise basis and proposed to do that here; and on the plaintiff's stating that his account was about $400, the defendant stated that he would pay $200 if the plaintiff would accept that in full. It was true that the plaintiff denied this conversation over the telephone, but that was for the jury, the defendant having distinctly testified to it. It was under these circumstances that the defendant made out his check for $200, writing on it that it was in full, transmitted it by letter, calling attention to that sum, and the plaintiff accepted the check and cashed it. Under these circumstances the plaintiff was bound by his act and could not claim anything over and above the $200. His reception and retention of the $200 in full payment of his account, that not being a liquidated account, or an account stated, was conclusive on him.

Liability of Physicians for Bad Dental Work

(Nisbet v. Vandiver (Ga.), 101 S. E. R. 761, Eichholz v. Poe et al. (Mo.), 217 S. W. R. 282)

The Court of Appeals of Georgia, Division No. 1, in the case of *Nisbet* v. *Vandiver*, affirms a judgment in favor of plaintiff Vandiver, a boy about 8 years of age, for damages in an amount not stated by the court, for alleged permanent injury done to him by defendant Nisbet, a licensed practicing physician and surgeon, in what he did, or failed to do, in extracting a lower tooth for the plaintiff. It was alleged that the defendant failed to administer properly the cocain used, and failed to exercise a reasonable degree of care, skill and diligence in that he used an unclean and infected needle to administer the cocain, injected unsterile cocain, was not careful as to selecting and using clean forceps or instruments, and did not properly diagnose and treat the case afterward, as a result of which gangrene developed, which required a removal of part of the jawbone and a disfiguring opening of the chin. The defendant denied the charges of negligence, and averred that, if any gangrene developed, it occurred after his connection with the case had terminated, and was in no manner caused by him. The court, however, thinks that there was evidence to support the verdict for the plaintiff.

In the case of *Eichholz* v. *Poe et al.*, in which two physicians and a dentist were the defendants, the Supreme Court of Missouri, Division No. 2, reverses an order of involuntary nonsuit and remands the case for a new trial. The court says that the plaintiff was a blacksmith, who worked at his trade until he went to the hospital where the defendant physicians operated on him and removed a kidney. On the day after the operation he had a toothache, of which he notified the physicians, and one of the physicians called his dentist, the other defendant, who examined the tooth, applied some lotion to stop the pain, went away, but returned that evening, extracted the tooth, and broke the jaw in so doing. The plaintiff did not call any supporting witness in his behalf, either lay or expert, although he might have called the nurse who attended him at the hospital, or he might have called the physician who treated him after he discharged the defendants. At the close of his case the defendants demurred to the testimony, and their demurrers being sustained, the plaintiff suffered an involuntary nonsuit. The defendants contended that the demurrers were properly sustained because there was no proof in the record of any negligence on the part of the defendants, and because there was likewise no proof of a causal connection between the act done and the injury suffered. The plaintiff charged in his petition that, while he was in a painful and weakened condition resulting from the operation for the removal of the kidney, the defendants negligently, carelessly and unskilfully extracted one of his teeth, and in so doing fractured his jaw, and thereafter failed properly to care for and treat the case, in consequence of which blood poisoning ensued. Where, as here, negligence is charged and that it resulted in the injury complained of, both must be affirmatively proved, except as to causal connection in cases in which it is supplied by statute. The causal connection in this case not being supplied by statute, it must be proved the same as negligence. But it is not necessary that negligence and causal connection between it and the injury be established by direct and positive testimony. It may be shown by circumstantial evidence, inferences legitimately drawn from physical facts which are disclosed by the record. Thus, either negligence or causal connection may be inferred by the jury. The proximate cause of the injury was established sufficiently by the testimony of the plaintiff, who swore that his jaw was fractured in the act of extracting the tooth, and the extraction of the tooth, being under the management and control of the defendants, the court thinks was sufficiently out of the ordinary course of that which usually happens when ordinary care and skill are employed, to warrant the jury in finding, in the absence of explanation by the defendants, that the tooth was negligently extracted.

Alcoholic Insanity as a Defense for Murder

(Collier v. State (Okla.), 186 Pac. R. 963)

The Criminal Court of Appeals of Oklahoma, in affirming a conviction of murder, says that the principle is everywhere recognized that voluntary intoxication is no justification or excuse for crime, and is no excuse for homicide, though carried to the extent of producing incapacity to control the mind and will. According to the syllabus by the court, in a prosecution for murder, alcoholic insanity, or mental incapacity produced by voluntary intoxication existing only temporarily at the time of the homicide, is no justification or excuse therefor. To constitute insanity caused by intoxication a defense in a trial for murder, it must be insanity caused by chronic alcoholism, and not a mere temporary mental condition. Insanity, though superinduced by excessive and long-continued indulgence in alcoholic liquors and known as "delirium tremens," or "mania a potu," renders a person so afflicted irresponsible for his acts, if it be of such a character as to deprive him of the mental capacity to distinguish between right and wrong, as applied to the particular act, whether he be under the influence of liquor at the time of the commission of the act or not; but, to do so, his afflic-

tion must be settled or fixed insanity, not a mere fit of drunkenness. A person not previously laboring under such a disease or affliction, who voluntarily becomes intoxicated to such an extent and for such a period of time as to cause unconsciousness of his acts, is not irresponsible under the law for the acts done by him while in such mental condition.

Under the penal code of Oklahoma, homicide is murder "when perpetrated without authority of law and with a premeditated design to effect the death of the person killed, or of any other human being," and evidence of intoxication is admissible to show an absence of the premeditated design to kill, for the purpose of determining whether the offense was murder or manslaughter; and a state of intoxication which will reduce homicide from murder to manslaughter in the first degree must be of such character and extent as to render the defendant incapable of entertaining or forming a design to effect death. And this question is for the jury to determine. Intoxication, either voluntary or involuntary, is to be considered by the jury in a prosecution for murder in which a premeditated design to effect death is essential, with reference to its effect on the ability of the defendant at the time to form and entertain such a design, not because, per se, or in and of itself, it either excuses or mitigates the crime, but because, in connection with other facts, an absence of malice or premeditation may appear. And the court says that where intoxication is resorted to for the purpose of blunting moral responsibility, it only increases the culpability of the defendant.

Society Proceedings

COMING MEETINGS

Amer. Assn. of Electro-Therapy & Radiology, Atlantic City, Sept. 14-17.
American Public Health Association, San Francisco, Sept. 13-17.
American Roentgen Ray Society, Minneapolis, Sept. 14-17.
Colorado State Medical Society, Glenwood Springs, Sept. 7-9.
Missouri Valley, Medical Society of the, Omaha, Neb., Sept. 6-7.
Utah State Medical Association, Ogden, Sept. 7-8.
Washington State Medical Association, Tacoma, Sept. 16-17.
Wisconsin, State Medical Society of, La Crosse, Sept. 8-10.
Wyoming State Medical Society, Cheyenne, Aug. 9-10.

OHIO STATE MEDICAL ASSOCIATION

Seventy-Fourth Annual Meeting, held at Toledo, Ohio, June 1-3, 1920

(Continued from page 198)

Problem of Forceps Prehension in Obstetrics

DR. WILLIAM GILLESPIE, Cincinnati: Most writers on and teachers of obstetrics tacitly assume that the tyro can perform a forceps extraction properly with axis traction instruments, provided certain simple rules of procedure are followed. The truth, however, is that most writers have circulated gross misconceptions about the use of forceps in their textbooks, and many common errors about axis traction have crept into the practice of the average obstetrician. The pubic joint may be torn asunder by the force of misguided axis traction, so it is apparent that the proper use of this tremendous force must be more judiciously taught and practiced. While the posterior surface of the pubes furnishes the best guide as to the axis of the pelvis in applying the blades of the forceps, there are special advantages in mastering their cephalic application as well. Such competence will enable the obstetrician to avoid cerebral lesions of the new-born, the result of misapplied blades and pressure. It is quite possible by an intensive study of the mechanism of labor as well as the principles of axis traction to use forceps for the high operation even with the head floating above the brim of the pelvis; also for canting the head past the promontory and delivering through flat pelves, even in face presentations.

Old and New Technic in Operating for Cataract

DR. DERRICK T. VAIL, Cincinnati: The old or combined capsulotomy method of operation is faulty because it is applicable only to ripe or nearly ripe cataracts. I would encourage those who undertake the operation for cataract to adopt Smith's method throughout in every case in which the lens shows a disposition to be delivered without strain, and as a method of last resort in case of imminent disaster. The best time to operate for cataract is before blindness and senility have set in. I operate when the patient can no longer read newspaper print with his best glasses in ordinary light.

Choice of a One-Stage or Two-Stage Operation for Cataract

DR. ROBERT SATTLER, Cincinnati: For a large majority of cases of relatively far advanced, partial or complete senile cataract, favorable and ready for operation, with functional examination, urinalysis and commonly accepted surgical risks in their favor, the complete operation is justly preferred and has become an almost universal practice on account of the advantages of only one hospital experience. For the exceptional cases, a two-stage operation is substituted.

Polycystic Kidney

DR. F. C. HERRICK, Cleveland: Undoubtedly some cases of polycystic kidney give such a prominent family history of an hereditary tendency as almost to justify the term "congenital" as applied to the condition occurring in adults. The surgical treatment of this condition has been chiefly limited to its complications of stone and infection. Nephrectomy is absolutely contraindicated. Experiments have shown that the cystic pressure limits the renal circulation, and that evacuation of the cysts, as a therapeutic measure during acute retention, would seem to be justified.

Causes and Treatment of the Conditions Underlying High Blood Pressure

DR. LEWELLYS F. BARKER, Baltimore: High blood pressure appears to depend chiefly on a narrowing of the lumina of the arterioles in the precapillary areas. It is at first functional and caused by hypertonus of the arterial musculature, though later it assumes a partly organic character the result of arteriosclerosis. The different types of chronic arterial hypertension probably represent different stages in the development of the same fundamental process, which may advance with variable rapidity and with variable associated involvements of cardiovascular, renal, cerebral and other structures in different cases. When recognized early, the process may often be arrested or so delayed in its progress that patients may live comfortably for many years before troublesome symptoms or dangerous complications occur. In the later stages of the process, much can be done to ameliorate symptoms and to ward off dangers, though in the actual end-stages both patients and physicians do better bravely to face reality, accepting the inevitable, rather than through wishful thinking increase suffering by resorting to meddlesome therapy that attempts the impossible. To prevent the development of the pathologic process underlying high blood pressure, one should first "get himself well born without constitutional inferiorities," and then should avoid intoxications and infections, and satisfy his physical, economic, social, educational, esthetic and ethical desires in a well balanced way, so ordering his activities that he will secure the highest self-realization possible in the service of the society in which he lives.

Peripheral Nerve Injuries

DR. LEWIS J. POLLOCK, Chicago: The striking feature of the clinical picture of early nerve lesions is the large percentage of marked and rapid improvement. There were probably 10,000 peripheral nerve lesions sustained in battle by the American Expeditionary Forces. To my knowledge not more than 3,000 cases were classified as peripheral nerve lesions in the hospitals of the United States. In other words, two thirds of the patients had so far recovered on reaching home hospitals that their nerve lesions were considered as of minor importance. From the cases coming under my personal observation, I would conclude that no more than one seventh of all cases should come to operation. One must be able to evaluate the paralysis of a mixed nerve injury and to avoid the mistake of misinterpreting accessory muscle movement and anastomotic nerve supply, factors that account for the miraculously rapid recoveries following resection and suture of peripheral nerves as reported by some surgeons.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal Medical Sciences, Philadelphia

June, 1920, **159**, No. 6

Causes and Definition of Cancer. L. Loeb, St. Louis.—p. 781.
Treatment of Thyroid and Other Endocrine Disturbances. J. A. Lichty, Pittsburgh.—p. 800.
*Human Arteriosclerosis: Its Etiology and Symptomatology. G. W. Norris, Philadelphia.—p. 815.
*Arteriosclerosis in Wild Animals. H. Fox, Philadelphia.—p. 821.
*Two Cases of Fibrinous Bronchitis; Review of Literature. J. C. Walker, Boston.—p. 825.
*Curves of Sugar and Urea After Standard Protein Meals. A. T. B. Jacobson and H. Edwards, New York.—p. 833.
Treatment of Surgical Shock in Zone of Advance. W. R. Ohler, Boston.—p. 843.
*Hyperglycemia in Its Relation to Immunity. G. L. Rohdenburg and H. F. Pohlman, New York.—p. 853.
Tests of Physical Fitness. P. D. White, Boston.—p. 866.
Life Cycles of Bacteria and Their Possible Relation to Pathology. R. R. Mellon, Rochester.—p. 874.
Nephritic Diet Sheet: Regulating Protein Intake. E. F. Walsh and J. P. O'Hare, Boston. p. 883.
*Antipneumococcus Serum (Kyes') in Treatment of Pneumonia. A. W. Gray, Milwaukee.—p. 885.
Chronic Pericardial Adhesions. J. C. Lyter, St. Louis.—p. 891.
Effect of Therapeutic Doses of Mercury on Kidneys and Duration of Its Excretion. L. G. Beinhauer, Ann Arbor, Mich.—p. 897.

Arteriosclerosis in Man.—It seems to Norris that clinical arteriosclerosis may simply be an involutional process, a part and parcel of aging; or it may be mechanical or toxic in origin. Just how this involutional process is brought about is not known, but it seems more than likely that it will ultimately be shown to be the result of chemical changes associated with the bodily metabolism, which exert their effects on the individual visceral, vascular and somatic cells, either directly or through the mediation of the ductless glands.

Arteriosclerosis in Wild Animals.—The study reported by Fox is a part of a general scheme of the Laboratory of Comparative Pathology at the Philadelphia Zoological Garden to place on record a review of the lesions found among the animals at the necropsy table. Mammals subjected to necropsy, 1,806; angeitis, 33, or 1.8 per cent.; birds subjected to necropsy, 3,571; angeitis, 53, or 1.4 per cent.

Two Cases of Fibrinous Bronchitis.—That cases of fibrinous bronchitis would probably not be as rare as the literature would indicate if the sputum of patients were more carefully examined is the belief held by Walker. The diagnosis of fibrinous bronchitis is made only by the finding of long branching bronchial casts in the sputum of persons who do not have tuberculosis, diphtheria, pneumonia or some other primary bronchial disease. Fibrinous bronchitis is an idiopathic disease, the cause of which is unknown. Although it may be due to a neurosis, it seems more closely allied to bronchitis, bronchiectasis and asthmatic bronchitis.

Curves of Sugar and Urea After Standard Protein Meals.—One important finding made by Jacobsen and Edwards is that after a standard meal of 50 gm. protein there is generally a rising curve of urea in the blood, which, as a rule, is higher in patients with severe diabetes or nephritis than in normal persons. The blood-urea level is not a reliable index of nitrogen retention. In some instances, for example in diabetics, it may possibly bear some relation to the rate of protein catabolism. On the whole, it seems to be governed by so many factors of the previous diet, fluid retention and unknown metabolic conditions that by itself it forms an uncertain basis for conclusions. The plasma sugar of normal persons is not appreciably altered by this quantity of protein. The substances in nephritic blood, which react like sugar to the Benedict test, are increased after a protein meal. A typical curve of hyperglycemia follows the ingestion of protein in suitably severe cases of diabetes. This is likely to be missed if active symptoms of glycosuria or hyperglycemia are present, as the effect of 50 gm. protein could scarcely be expected to be noticeable amid such a surplus of sugar. Rarely also the rise may be slight in extreme exhaustion. Under the conditions of strict diet treatment this reaction to a standard protein meal may be used as a measure of the severity of diabetes and a guide both to the protein allowance and the total ration, and it has lately been used for these purposes in this clinic.

Hyperglycemia in Relation to Immunity.—The experiments recorded by Rhodenburg and Pohlman show a phenomenon associated with the process of immunity which has hitherto escaped observation. An analysis of the hyperglycemia following repeated injections of the same substance indicates that the hyperglycemia is one which gradually increases in intensity up to a certain level of sugar concentration in the blood, that it keeps this level of intensity for a short period and then returns to a normal figure even though the immune bodies are still present in the blood. The experiments further suggest that the hyperglycemia which follows the injection of substances generally supposed not to be capable of inducing antibody formation (i. e., fats, polypeptids) may serve as a method for testing the reactions of the body when neither precipitins, agglutinins nor lysins are demonstrable. From a practical standpoint the absence of a hyperglycemia after the injection of a given substance known to induce hyperglycemia might be taken to indicate the point of maximum antibody production in the individual or animal in question.

Antipneumococcus Serum in Pneumonia.—The comparison submitted by Gray is a mortality of 16.7 per cent. in 234 serum treated cases of pneumococcus pneumonia, with a mortality of 53.6 per cent. in 1,684 similar cases treated in other respects by the same methods, except that they received no serum. In other words, the death rate in the serum treated cases was somewhat less than one third that in the cases compared.

American Journal of Roentgenology, New York

May, 1920, **7**, No. 5

Case of Thyroid Metabolism. C. W. Schwartz, Boston.—p. 229.
Four Cases of Malignant Disease Successfully Treated by Roentgen Ray. A. F. Tyler, Omaha.—p. 231.
Pathologic Findings in One Thousand Roentgen-Ray Examinations of Digestive Tract. W. Warner Watkins, Phoenix, Ariz.—p. 234.
Case of Diaphragmatic Hernia without Severe Symptoms. H. J. Howk and J. A. Herring, Mt. McGregor, New York.—p. 247.
Hernia of Diaphragm with Portion of Stomach in Thoracic Cavity. W. W. Belden, New York.—p. 250.
Manufacture of Coolidge Roentgen-Ray Tube. R. C. Robinson and C. N. Moore, Schenectady, N. Y.—p. 254.
Study of Gas Containing Roentgen-Ray Tubes and Description of New Tube. A. Mutscheller, New York.—p. 261.

June, 1920, **7**, No. 6

Diagnosis and Localization of Non-Opaque Foreign Bodies in Bronchi. C. Jackson, W. H. Spencer and W. F. Manges, Philadelphia.—p. 277.
*Secondary Hypertrophic Osteo-Arthropathy with Metastatic Sarcoma of Lung. L. Bryan, San Francisco.—p. 286.
True Congenital Hernia of Stomach in Right Diaphragm. D. Y. Keith, Louisville.—p. 289.
Bucky Diaphragm Principle Applied to Roentgenography. H. E. Potter, Chicago.—p. 292.
*Diagnosis by Roentgen Rays of Cirrhosis of Liver. A. H. Pirie, Montreal.—p. 296.
Malignant Abdominal Tumor Clinically Cured by Roentgen Ray. L. S. Goin, Battle Creek, Mich.—p. 297.
Plan of a Building for a Model Roentgen-Ray Laboratory. J. D. Morgan, Montreal.—p. 298.
Alveolar Infections of Dental Origin as Seen by Roentgenologist. H. W. Dachtler, Toledo.—p. 302.
Cancer Ameliorations and Cancer Immunity. A. F. Holding, Madison, Wis.—p. 306.

Secondary Hypertrophic Osteo-Arthropathy.—To the five cases of this condition now on record, Bryan adds one occurring in a man, aged 29. Fifteen years ago the patient was run over by a wagon and had the middle third of the right arm badly cut and bruised. The wound healed readily, leaving considerable scar tissue. Five years after the accident, a rapidly growing mass appeared in the scar tissue. It was excised, but recurred within a year and was again removed. A year later, excision was again attempted and still later a fourth excision was done. When first seen by Bryan, there was no apparent bony involvement, no evidence of glandular involvement and no clinical roentgen-ray evidence of pulmonary involvement. A thoracoscapular amputation was done from which the patient made an uneventful recovery. Examination of the specimen showed a spindle and small cell sarcoma. Sixteen months following the operation the patient

returned with a large mass at the site of the amputation, with clinical evidence of pulmonary involvement and complaining of pain in the knees. Roentgen-ray examination showed fluid in the chest with multiple rounded shadows of increased density throughout both lung fields, typical of metastatic malignancy. The hand and the feet showed marked clubbing of the phalanges with irregular burrlike expansion of the distal ends of the phalanges. The metatarsals, metacarpals, tibiae, fibulae, femurs, the remaining radius, ulna and humerus, all showed a marked laminated ossifying periostitis which was sharply differentiated from the cortex of the bone; as a rule, this periosteal reaction was confined to the diaphysis and was most marked near the distal ends of the bones. There was no involvement of the skull, vertebrae, scapula or pelvic bones. There was no apparent erosion of the joints or attempts of fusion of the reaction zone with the shaft, as seen in some of the older cases.

Roentgen-Ray Diagnosis of Liver Cirrhosis.—The irregular outline of the hobnail liver was shown by Pirie, with the roentgen rays by injecting into the peritoneal cavity a liter of oxygen and making roentgenogram in the upright position.

Archives of Neurology and Psychiatry, Chicago

June, 1920, **3**, No. 6

*Endocrinologic Aspects of Some Neurologic Conditions. W. Timme, New York.—p. 601.
Monoplegia Spinalis Spastica; Report of Cases. W. G. Spiller, Philadelphia.—p. 609.
*Histopathology of Brain Abscess; with Remarks on Intraspinal Therapy. G. B. Hassin, Chicago.—p. 616.
*Presence of Arsenic in Spinal Fluid. G. W. Hall, R. J. Callender and E. C. Holmblad, Chicago.—p. 631.
*Eleven Cases of Cervical Sympathetic Nerve Injury, Causing Oculopupillary Syndrome. S. Cobb, Boston, and H. W. Scarlett, Philadelphia.—p. 636.
Meditations on Morale. D. Gregg, Wellesley, Mass.—p. 654.

Endocrine Deficiency in Neurologic Conditions.—Suprarenal inefficiency in neurasthenia, pituitary disfunction in migraine and in epilepsy are the conditions to which Timme directs attention.

Value of Intraspinal Therapy.—The practical conclusion drawn by Hassin is that intraspinal therapy of cases in which especially the parenchyma of the brain is deeply involved, as in general paresis, has not physiologic support. In those cases in which the trouble is in the subarachnoid space itself, as in cerebrospinal meningitis, the injection is wholly justified, for given in suitable doses it may produce results. But as used in intraspinal therapy, in very small doses (fractions of a grain of arsphenamin), therapeutic results can hardly be expected. Hassin believes that the favorable reports of the Swift-Ellis method of treatment by some reliable observers can be explained, not by the action of the intraspinal injections, but by that of the intravenous ones.

Arsenic in Spinal Fluid.—According to Hall and others arsphenamin given intravenously in 0.6 gm. doses may be detected in the spinal fluid in from 25 to 35 per cent. of the cases. Irritation of the meninges by the injection of autoserum into the spinal canal does not increase this percentage.

Cervical Sympathetic Nerve Injury Causing Eye Symptoms.—Cobb and Scarlet claim that lesions affecting the seventh and eighth cervical and first thoracic roots, through which sympathetic fibers run, cause the most severe and typical oculopupillary syndromes.

Arkansas Medical Society Journal, Little Rock

June, 1920, **17**, No. 1

Diagnosis of Chronic Heart Disease. H. McCulloch, St. Louis.—p. 1.

Boston Medical and Surgical Journal

July 8, 1920, **183**, No. 2

Prostatectomy. H. G. Bugbee, New York.—p. 41. To be continued.

Colorado Medicine, Denver

June, 1920, **17**, No. 6

*Discrepancies between Clinical Symptoms and Laboratory Findings in Syphilitic Disease of Nervous System. G. A. Moleen, Denver.—p. 147.
Treatment of Nasal Accessory Sinus Disease. F. R. Spencer, Boulder.—p. 156.
Differential Diagnosis of Ureteral Obstruction from Lesions of Other Abdominal Organs. O. S. Fowler, Denver.—p. 159.
*Subcutaneous Use of Lobelia. A. J. Nossaman, Pagosa Springs.—p. 164.

Value of Laboratory Findings.—The five cases cited by Moleen are said to emphasize that all laboratory procedures must be valued only as contributory evidence, as modifying, but not contradictory to, clinical phenomena—that the preponderating evidence belongs to clinical manifestations of disease. In the absence of clinical evidence of a nervous lesion, the presence of a positive Wassermann reaction is not to be ignored, inasmuch as lipoids giving such a reaction may exist in the body fluids, probably derived from sequestered or isolated foci, without, or prior to, the occurrence of disintegrative lesions of the nerve structures.

Lobelia a Valuable Eliminant.—Nossaman recommends the use of lobelia as an eliminant. He administers it hypodermically, from 10 minims to 1 dram, repeated as necessary, every two to four hours, in acute cases, and once or twice a day in chronic cases. He believes that lobelia has not been used as much as it should be.

Indiana State Medical Association Journal, Fort Wayne

June 15, 1920, **13**, No. 6

Sir William Osler. E. M. Hoover, Elkhardt, Ind.—p. 191.
Mechanical Aids in Diagnosis of Lesions of Upper Urinary Tract. J. S. Eisenstaedt, Chicago.—p. 197.
Darning Needle in Lung. J. N. Study, Cambridge City, Ind.—p. 200.
Fracture of Calcaneus. E. B. Mumford, Indianapolis.—p. 200.

Iowa State Medical Society Journal, Des Moines

June, 1920, **10**, No. 6.

Lung Abscess, Exophthalmic Goiter and Cholecystitis Following Tonsillectomy. W. H. Rendleman, Davenport.—p. 168.
Dangers Associated with Blood Transfusions. J. deJ. Pemberton, Rochester, Minn.—p. 170.
Cases of Carcinoma of Rectum. W. W. McCarthy, Des Moines.—p. 173.
Chronic Catarrhal Otitis Media. F. F. Agnew, Independence.—p. 175.
Skin Grafting. J. F. Pember, Janesville, Wis.—p. 181.

Journal of Bacteriology, Baltimore

May, 1920, **5**, No. 3

Families and Genera of Bacteria. Report of Committee of Society of American Bacteriologists on Characterization and Classification of Bacterial Types. C. E.-A. Winslow and others.—p. 191.
Production of Hydrogen Sulphid by Bacteria. J. T. Myers, Chicago.—p. 231.
Correlation Study of Colon-Aerogenes Group of Bacteria, with Special Reference to Organisms Occurring in Soil. C. C. Chen and L. F. Rettger, New Haven, Conn.—p. 253.
Flora of Stomach. G. E. Burget, Chicago.—p. 299.
Relative Effect of Phosphate-Acetate and of Phosphate-Phthalate Buffer Mixtures on Growth of Endothia Parasitica on Malt Extract and Corn Meal Media. M. R. Meacham, J. H. Hopfield and S. F. Acree.—p. 305.
Method of Determining Relative Toxicity of Sodium, Potassium, Lithium and Other Ions Toward Endothia Parasitica: Data on Sodium Chlorid. M. R. Meacham, J. H. Hopfield and S. F. Acree. p. 309.

Journal of Experimental Medicine, Baltimore

June 1, 1920, **31**, No. 6

Studies on Experimental Pneumonia. R. L. Cecil and F. G. Blake, Washington, D. C.—p. 657.
*V. Active Immunity Against Experimental Pneumococcus Pneumonia in Monkeys Following Vaccination with Living Cultures of Pneumococcus.—p. 657.
*VI. Active Immunity Following Experimental Pneumococcus Pneumonia in Monkeys.—p. 685.
Experimental Syphilis in Rabbit. W. H. Brown and L. Pearce, New York.—p. 709.
I. Primary Infection in Scrotum.—p. 709.
II. Scrotal Lesions.—p. 729.
III. Local Dissemination, Local Recurrence and Involvement of Regional Lymphatics.—p. 749.
*Heterotransplantation of Thyroid Gland. L. Loeb, St. Louis.—p. 765.

Active Immunity Against Experimental Pneumonia.—The subcutaneous injection of small doses of living virulent pneumococcus Type I was found by Cecil and Blake to stimulate in monkeys a degree of active immunity sufficient to protect them against experimental pneumococcus pneumonia of homologous type. If administered in a sufficiently large

dose, it likewise renders the monkey immune to a subsequent pneumonia of homologous type. Vaccination of living virulent pneumococci may or may not be followed by a severe constitutional reaction, depending on the natural resistance of the individual. The severe reactions are caused by the development of a pneumococcus septicemia, which is either temporary, or leads to a fatal termination. The mild reactions are not accompanied by septicemia, and there are no symptoms other than a slight elevation of temperature and moderate leukocytosis. Vaccination with living virulent pneumococci does not induce severe reactions and is not accompanied by pneumococcus septicemia.

Active Immunity Established by Experimental Pneumonia.—According to Cecil and Blake experimental pneumococcus Type I pneumonia in monkeys confers on them an immunity which protects them against subsequent infection with the homologous type of pneumococcus. The duration of this immunity has not been determined. A certain amount of cross immunity against the other fixed types of pneumococcus pneumonia may or may not be present following experimental pneumococcus Type I pneumonia. The degree of cross immunity is difficult to measure and probably varies widely with the individual monkey. Experimental pneumococcus Type IV pneumonia in monkeys confers slight if any protection against subsequent infection with the same, or with an homologous strain of pneumococcus Type IV. There is not evidence in monkeys of cross immunity against pneumococcus Type IV pneumonia following pneumococcus Type I pneumonia; and conversely, pneumococcus Type IV pneumonia confers no cross immunity against pneumococcus Type I pneumonia.

Heterotransplantation of Thyroid.—The heterotoxins Loeb says injure the transplanted cells directly and make them thereby susceptible to additional injurious influences, such as lack of good vascularization, fibrous character of the stroma causing compression of acini, and direct invasion and destruction of a limited number of acini by fibroblasts and lymphocytes. These factors lead to a constant dying of transplanted parenchyma which is not compensated for by any appreciable new formation of tissue. The primary factor in the destruction of the heterotransplant is the injurious effect of the heterotoxins. They change the metabolism of the transplanted cells which now exert an effect on the blood vessels, connective tissue cells, and lymphocytes which differs in certain respects from that exerted by normal as well as auto and homoiotransplanted cells. These secondary reactions contribute to the destruction of the heterotransplants.

Journal of Orthopedic Surgery, Lincoln, Neb.

June, 1920, **2**, No. 6

Splint for Treatment of Stiff Fingers. F. F. A. Ulrich, New Zealand. p. 321.
*Astragalo-Scaphoid Dislocations of Foot. A. F. O'Donoghue, Iowa City, Ia.—p. 327.
Treatment of Fractures of Upper End of Humerus by Modified Crane Splint. F. E. Peckham, Providence, R. I.—p. 339.
Suggestions from Brace Shop. R. V. Funsten, Iowa City, Ia.—p. 345.

Astragaloscaphoid Dislocations.—O'Donoghue states that scapho-astragaloid dislocations usually take place when the foot is supinated and plantar-flexed. A palpable caput tali and a prominent scaphoid with a depression proximal to it is the most important physical sign of dislocation in the scapho-astragaloid joint. Open operation is usually indicated in order to hold a satisfactory reduction. Resection of the head of the astragalus is often necessary in cases of more than two weeks standing.

Kansas Medical Society Journal, Topeka

June, 1920, **20**, No. 6

Past, Present and Future of Medicine. E. E. Liggett, Oswego.—p. 151.
Geriatrics. J. A. Rader, Caney.—p. 154.

Laryngoscope, St. Louis

May, 1920, **30**, No. 5

Present Status of Plastic Surgery about Ear, Face and Neck. J. C. Beck, Chicago.—p. 263.
Ethmoid Operations for Pansinusitis. W. P. Reaves, Greensboro.—p. 289.
Radium Applicator for Larynx. O. T. Freer, Chicago.—p. 298.
*Case of Traumatic Salivary Fistula. S. Oppenheimer, New York.—p. 304.
Woody Phlegmon; Report of Cases. H. L. Pollock, Chicago.—p. 306.
Falling Reaction of Acrobatic Aviators. R. J. Hunter, Philadelphia.—p. 312.
Foreign Body in Right Inferior Bronchus; Removal. E. G. Gill, Roanoke, Va.—p. 315.

Traumatic Salivary Fistula.—Oppenheimer records a case of traumatic salivary fistula as a complication of the mastoid operation performed four years previously on a boy, aged 7, following an attack of measles.

Maine Medical Association Journal, Portland

June, 1920, **10**, No. 11

*Operation for Cure of Weak Foot. H. A. Pingree, Portland.—p. 329.

Tenoplasty for Weak Foot.—The operation which Pingree prefers to all other methods in extreme cases consists in lengthening those tendons which are short and which hold the foot everted and the arches flattened, and in shortening those which are too long to give the required support. This method presupposes a flexible foot, so far as disease is concerned, and aims to make the foot eventually self-supporting.

Medical Record, New York

July 3, 1920, **98**, No. 1

Socially Maladjusted. L. P. Clark, New York.—p. 1.
Diet and Health; Amount and Kind of Food Required. J. Aulde, Philadelphia.—p. 9.
Headache from Standpoint of Ophthalmologist and Otolargngologist. E. G. Gill, Roanoke, Va.—p. 12.
*Paralysis Agitans and Syphilis. B. Oettinger, Long Beach, Calif.—p. 15.
Nervous and Mental Mechanisms: Nerve Impulse. W. Steinach, New York.—p. 17.
Ripe Olives. D. W. Montgomery, San Francisco.—p. 19.

Paralysis Agitans and Syphilis.—In nine of twelve consecutive cases of paralysis agitans seen by Oettinger evidence that ranges from reasonably presumptive to certain that a some time syphilitic infection occurred, presents a sufficiently high percentage to be notable, and so, probably, merits further observations. Interesting is the fact, that the blood Wassermann was negative in every case tested, including those instances where the history disclosed certain syphilitic infection and the further fact that one of these had previously given a positive blood and spinal reaction. None of these patients presented symptoms that could be interpreted as characteristically syphilitic in origin. Oettinger does not suggest that Parkinson's disease is a phase of syphilis, but it seems plausible that syphilis may be a determining factor in the disease by effecting loss in organic defense to a virus which finds its most potent expression in characteristic tissue change, namely: degeneration to a greater or less extent of the corpora striata.

Nebraska State Medical Journal, Norfolk

June, 1920, **5**, No. 6

State Care of Defectives. L. Crummer, Omaha.—p. 153.
Surgical Roentgen Ray. H. Everett, Lincoln.—p. 157.
Surgery of Thyroid. C. A. Roeder, Omaha.—p. 162.
Doctor and His Cost System. A. F. Tyler, Omaha.—p. 168.
Report of 5,000 Wassermann Tests. E. T. Manning, Omaha.—p. 170.
Gall Bladder as a Seat of Secondary Infection. E. A. Watson, Grand Island.—p. 173.

New Jersey Medical Society Journal, Orange

June, 1920, **17**, No. 6

Raynaud's Disease. H. P. de Forest, New York.—p. 181.
Radical Cure of Inguinal Hernia. J. F. Hagerty, Newark.—p. 199.

New York Medical Journal

July 3, 1920, **112**, No. 1

Diagnosis and Treatment of Gallbladder Affections. M. Einhorn, New York.—p. 1.
Gastric Superacidity. W. V. V. Hayes, New York.—p. 5.
*Primary Sarcoma of Stomach. S. Basch, New York.—p. 9.
Infections of Gastro-Intestinal Tract and Their Relation to Arteriosclerosis. N. P. Norman, New York.—p. 13.
Diagnosis of Gastric Diseases. M. B. Kunstler, New York.—p. 18.
*Operation for Radical Cure of Inguinal Hernia. G. Woolsey, New York.—p. 21.
Choledochitis, Cholecystitis and Cholelithiasis. B. B. V. Lyon, Philadelphia.—p. 23.
Weight, Diet and Efficiency. R. H. Rose, New York.—p. 27.
Ulcer of Esophagus. S. Weiss, New York.—p. 29.

Sarcoma of Stomach.—A woman, aged 22, whose father died of gastric cancer, was ill for one year with symptoms referred entirely to her stomach. The clinical diagnosis of

intragastric tumor made by Basch was confirmed roentgenographically and by operation. A typical Mayo cautery resection was made, followed by a posterior gastroenterostomy. No other tumor masses were found. Microscopic examination showed that the tumor was a large round cell sarcoma. Fifteen months after operation, the patient was entirely free from symptoms and had gained 50 pounds in weight. Basch believes that these cases are far more common than has hitherto been believed to be the case.

Herniotomy Technic.—The main features of Woolsey's method of operation are obliteration of the inguinal canal and the external abdominal ring, and fortifying this part of the abdominal wall by (1) suture of the entire thickness of the musculo-aponeurotic wall along the upper or inner margin of the incision to the deep surface of Poupart's ligament; (2) by overlapping the lower flap of the external oblique aponeurosis in front of the upper flap, and (3) transplanting the cord so it will lie superficially to the aponeurosis. Woolsey says he has been operating on hernias according to this method since 1895 but never published the technic.

July 10, 1920, **112**, No. 2

*Chronic Intestinal Toxemia. A. Bassler, New York.—p. 45.
Constipation and Effect of Purgatives on Heart and Vessels. O. Lerch, New Orleans.—p. 48.
Dietary Treatment of Constipation. R. Upham, Brooklyn.—p. 53.
Choledochitis, Cholecystitis and Cholelithiasis. B. B. V. Lyon, Philadelphia.—p. 56.
Peptic Ulcer. J. S. Diamond, New York.—p. 60.
Vomiting from a Surgical Viewpoint. A. W. Hammer, Philadelphia. p. 64.
*Fibroma of Mesentery. A. Jacoby, New Orleans.—p. 66.

Chronic Intestinal Toxemia.—The two measures which Bassler says his experience with thousands of cases have proven to be of the most value are diet and bacterial treatments. The diet should be a carbohydrate and hydrocarbon one in the putrefaction (indolic) case, a high protein in the fermentation (saccharobutyric) case, and one of carefully weighed foods so as to keep down to a minimum caloric value in the mixed form. Lactose by mouth is of no value, but the plan of feeding coarse, uncrushed grains, somewhat sustains an acidity if a suitable bacteriology is present in the gut—which unfortunately is seldom met with in the putrefaction case; but when this is present a lactic acid carbon dioxid result can easily be accomplished. What must always be kept in mind, by dietetic treatment alone, is that most of the infecting forms of bacteria in the gut are facultative and while they may be influenced favorably by diet, this is transitory and not dependable in therapy after a few weeks' time. Since no purgation should ever be permitted in these cases, the bowels must be regulated by the well known dietetic and physical measures, and not even by irrigations or enemata of any sort. The bacterial treatments are based on the findings in complete examinations of the stools and urine under known conditions of diet. This diet should be the normal one for the age, work, and weight of the individual. Suitable diet lists are given.

Fibroma of Mesentery.—Indigestion, jaundice and constipation were the first symptoms complained of by Jacoby's patient. Pain led the man to press his hands against his abdomen, and then he felt a mass which physicians later believed to be a "gas" tumor, but at operation it was found to be a tumor located in the mesentery and very close to the ileum. Its removal could be considered only by a resection of that part of the ileum in the mesentery of which it was located. The bowel was excised with the cautery, tied, and the ends inverted with several rows of chromic catgut and one of silk. The ends were placed side by side like the barrels of a shotgun and a lateral anastomosis done. This method of anastomosis does away with the danger of fecal stasis in the blind ends of the gut. Jacoby does not claim originality for the method.

New York State Journal of Medicine

June, 1920, **20**, No. 6

Relation of Hypertension and Hypotension of Membrana Tympani to Deafness and Tinnitus. H. Hays, New York.—p. 173.
Treatment of Muscular Anomalies. E. S. Thomson, New York.—p. 178.
What Should Be Our Routine in Examining Cases of Squint? A. Duane, New York.—p. 181.
Clinical and Bacteriological Study of Fusiform Bacillus Infection. R. R. Mellon, Rochester.—p. 187.
Determination of Cardiovascular Lesions in Draft Soldiers Inducted into Service at Camp Gordon, Ga., and Efficiency of Methods Employed. A. MacFarlane, Albany.—p. 190.
Appendix to Report. A. C. Snell, Rochester.—p. 199.

Pennsylvania Medical Journal, Athens

June, 1920, **23**, No. 9

Modern Treatment of Corneal Ulcers. O. C. Reiche, Hazelton.—p. 493.
Traumatic Cataract. J. W. Park, Harrisburg.—p. 494.
Why Annual Assessment Must Be Increased. J. B. F. Wyant, Kittanning.—p. 497.
Qualification for Membership in a Medical Society. J. N. Hunsberger, Norristown.—p. 498.
Our Responsibility for Membership's Ethics. W. H. Mayer, Pittsburgh.—p. 500.
Proposed Public Welfare Legislation. J. B. McAlister, Harrisburg.—p. 502.
Legislative Possibilities. F. L. Van Sickle, Olyphant.—p. 503.

Rhode Island Medical Journal, Providence

June, 1920, **3**, No. 6

Vascular Hypertension. J. P. O'Hare, Boston.—p. 103.
Case of Lethargic Encephalitis. D. L. Richardson, Providence.—p. 108.

Southern Medical Journal, Birmingham, Ala.

June, 1920, **13**, No. 6

Rôle of Digitalis in Cardiac Disease. F. A. Jones, Memphis.—p. 395.
*Value of Large Single Doses of Digitalis in Treatment of Heart Disease. G. C. Robinson, St. Louis.—p. 396.
Case of Balantidium Coli Infection. W. O. Nisbet, Charlotte, N. C. —p. 403.
*Ileocolitis. N. C. Womack, Jackson, Miss.—p. 406.
Treatment of Enterocolitis in Infancy. W. W. Harper, Selma, Ala. —p. 408.
Aftermath of Malaria Control in Extra-Cantonment Areas. J. A. LePrince, Memphis.—p. 413.
Control of Malaria for Railroad System. H. W. Van Hovenberg, Texarkana, Ark.—p. 418.
Relation of Drainage Projects to Malaria Control. J. I. Herritage, Jacksonville, N. C.—p. 424.
Technic of Operations on Peripheral Nerves. C. C. Coleman, Richmond, Va.—p. 427.
Problems in Neurologic Surgery. E. Sachs, S. Louis.—p. 434.
Choice of Operation in Senile Prostatic Hypertrophy. O. L. Suggett, St. Louis.—p. 440.
*Technic of Removing Ureteral Calculus without Operation. A. J. Crowell and R. Thompson, Charlotte, N. C.—p. 446.
Bronchoscopy. T. W. Moore, Huntington, W. Va.—p. 450.
Foreign Bodies in Lungs, Esophagus and Intestines. E. W. Carpenter, Greenville, S. C.—p. 451.

Digitalis in Large Doses.—The administration of the tincture of digitalis in large single doses of from 15 to 25 c.c. is advocated by Robinson as a useful method of treatment in certain cases of heart disease, provided the tincture is standardized, the dosage regulated and the patient is kept under close observation. This method of administration not only brings the heart rapidly under the influence of the drug, but also affords a more accurate means of studying its effect than the older methods of small repeated doses. The use of large single doses is apparently not dangerous under the conditions specified. Problems of dosage, especially to body weight, still need solution. The beneficial effect of digitalis in cases with cardiac irregularity caused by auricular fibrillation is especially emphasized by Robinson's experience with large single doses in this condition.

Calomel in Ileocolitis.—In the medical treatment of ileocolitis Womack gives calomel, from $\frac{1}{24}$ to $\frac{1}{48}$ grain, and morphin, from $\frac{1}{50}$ to $\frac{1}{125}$ grain by mouth, every three hours, until the bowel quiets down from its continual spasm. He believes that ileocolitis is mainly due to a gas producing bacterium that is an attenuated or malignant form of the colon bacillus. There is always an attending pyelitis in which the colon bacillus in great numbers is found and this pyelitis may antedate, and certainly is the immediate complication of, ileocolitis, and assumes the major rôle from the standpoint of the cause of death. Therefore, in the treatment of ileocolitis, first attention should be paid to the kidney. Forced feeding of a selected carbohydrate diet with plenty of water should be given. All forms of rectal irrigations or alimentation should strictly be interdicted on the ground that they not only do no good, but are distinctly harmful.

Removing Ureter Calculus Without Operation.—A bismuth catheter is inserted into the ureter until it meets the stone.

Two c.c. of a 2 per cent. solution of cocain or procain is slowly injected into the ureter at the site of impaction. The ureteral spasm is so relaxed in a few moments that the catheter will usually pass beyond the stone where another injection of the anesthetic is made to further deaden the sensation. The kidney pelvis is distended with a physiologic sodium chlorid solution and sterile olive oil is injected as the catheter is being removed. In this way the pressure above the stone is increased and assists in expelling it, while the muscular fibers of the ureter are relaxed and the sensation is deadened. This technic is repeated every second or third day, increasing the size of the ureteral catheter at each treatment.

Southwest Journal of Med. and Surg., El Reno, Okla.

April, 1920, **28**, No. 4

Gunshot Wounds of Abdomen. C. A. McGuire, Kansas City, Mo. —p. 69.
Condition of Eyes Following Gas Attacks. W. A. Cook, Tulsa, Okla. —p. 71.
Hyperthyroidism (Toxic Goiter). A. L. Blesh and W. W. Ricks, Oklahoma City.—p. 73.

May, 1920, **28**, No. 5

Medical Treatment of Obstructive Peptic Ulcer. P. T. Bohan, Kansas City, Mo.—p. 85.
Early Recognition of Cancer. D. Gann, Jr.—p. 88.
Visceral Ptosis. O. B. Hall, Warrensburg, Mo.—p. 95.

Southwestern Medicine, El Paso, Texas

May, 1920, **4**, No. 5

Sequels of Tonsillectomy. S. A. Schuster, El Paso.—p. 1.
Focal Infections in Certain Grave Anemias. J. Vance, El Paso.—p. 4.
Importance of Blood Pressure Observation in Surgical Prognosis. F. H. McMechan, Avon Lake, Ohio.—p. 8.

Texas State Journal of Medicine, Fort Worth

May, 1920, **16**, No. 1

Orbital Tumors. E. H. Cary, Dallas.—p. 7.
Effect of Certain Intranasal Conditoins on Extrinsic Muscles of Eye. E. M. Sykes, San Antonio.—p. 10.
Treatment of Stricture of Esophagus. J. H. Foster, Houston.—p. 12.
Drains and Drainage. T. J. Bennett, Austin.—p. 13.
Symptoms and Diagnosis of Carcinoma of Stomach. G. V. Brindley Temple.—p. 15.
Parturient Eclampsia. H. Allison, Kingsville.—p. 18.
Country Doctor Moves to Town. J. Dildy, Brownwood.—p. 19.

June, 1920, **16**, No. 2

Public Health Education. R. W. Knox, Houston.—p. 43.
Memorial Address. S. R. Hay, Houston.—p. 49.
New Age and New Red Cross. C. C. S. Biggs, Washington, D. C.—p. 51.

Wisconsin Medical Journal, Milwaukee

May, 1920, **18**, No. 12

Influenza at Base Hospital 22. R. C. Brown, Milwaukee.—p. 501.
War Psychoneurosis. W. F. Lorenz, Mendota.—p. 506.
Trephine Operation for Pyothorax. A. C. Strachauer, Minneapolis. —p. 511.
Nausea and Vomiting of Pregnancy. C. H. Davis, Milwaukee—p. 513.
Doctor and Public Health. C. St. C. Drake, Springfield, Ill.—p. 518.

June, 1920, **19**, No. 1

Cholelithiasis. W. Cunningham, Platteville.—p. 1.
Prevention of Trachoma in Military Camps. N. M. Black, Milkaukee. p. 5.
Roentgen Ray as Aid to Diagnosis. E. A. Smith, Milwaukee.—p. 15.
Present Status of Blood Pressure. L. M. Warfield, Milwaukee.—p. 19.
Medical Service from Viewpoint of a Volunteer. M. R. Wilkinson, Oconomowoc.—p. 25.
Mastoiditis Following Infectious Diseases in Army Cantonment. E. F. Baur, Milwaukee.—p. 27.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

June 19, 1920, **1**, No. 3103

Passive Mechanical Factor in Heart Disease: Its Influence and Management. A. B. Morison.—p. 817.
*Deficiency Disease: Special Reference to Gastro-Intestinal Disorders. R. McCarrison.—p. 822.
Poisoning by Arseniuretted Hydrogen. T. H. Wignall.—p. 826.
Ruptured Malarial Spleen: Splenectomy: Recovery. C. A. Raison. —p. 827.
*Syphilis Insontium. J. C. McWalter.—p. 827.
*A Case of Malignant Pustule in which Incubation Period was Known. H. H. McCurrich.—p. 828.
*Subcutaneous Injections of Camphor. A. D. Gorman.—p. 828.
Severe Angioneurotic Edema. R. Alderson.—p. 828.
Herpes and Varicella. C. Wilson.—p. 828.

Vitamin Deficiency Cause of Gastro-Intestinal Disorder.—The importance of a study of the "dietetic history" in every case of gastro-intestinal disorder is discussed by McCarrison. He claims that experience in Germany during the war has shown that children who are properly fed will be less liable to suffer from intussusception. Other gastro-intestinal disorders probably connected in their origin or in their continuance with dietetic deficiency and lack of balance of the food are: mucous disease of children, celiac disease, intestinal toxemia, and gastro-intestinal stasis. They are readily produced by a diet deficient in vitamins and suitable protein while excessively rich in carbohydrates.

Syphilis Insontium.—A case is reported by McWalter which he claims proves that syphilis infection can take place in the eight month of pregnancy.

Malignant Pustule.—The main points of interest in McCurrich's case are that the patient having contracted anthrax from a shaving brush, knew: (*a*) when he cut himself; (*b*) when the painful papule appeared at the site of the cut; (*c*) when the papule became a vesicle. It is also noteworthy that on admission to hospital, seven days after the onset of the disease, the patient had received no specific treatment and yet appeared to be well on the road to recovery.

Injections of Camphor in Oil.—Gorman has given intramuscular injections into the gluteal region of camphor in oil, 5 grains in 15 minims, every four hours without untoward results in a single instance.

Japan Medical World, Tokyo

May 29, 1920, **10**, No. 22

Cases of Pneumectomy. S. Sato.—p. 469.
Probiosis and Contrabiosis of Bacteria. S. Toguchi.—p. 469.
Prophylactic Injection of Influenza. R. Tsuneoka, G. Takahashi and S. Ozaky.—p. 469.

June 5, 1920, **10**, No. 23

Pathology of Puerperal Eclampsia. K. Obata.—p. 493.

Journal of Tropical Medicine and Hygiene, London

June 15, 1920, **23**, No. 12

Diagnosis and Treatment of Tropical Hepatic Abscess. D. Duckworth p. 149.
Cosmopolitan Sudan Skin Affections. A. J. Chalmers and N. Mac donald.—p. 150.

Lancet, London

June 19, 1920, **1**, No. 5051

Influence of Nerve Impulses on Visceral Disorders. H. T. Gray.—p. 1299. To be continued.
*Investigation and Treatment of Nephritis. H. MacLean and A. E. Russell.—p. 1305.
*Factor of Fever in Diagnosis of Cancer. W. Gordon.—p. 1309.
*Cerebral Reactions following Injections of Novarsenobenzol: Two Fatal Cases. F. G. Hitch.—p. 1311.
*Traumatic Rupture of Heart. R. K. Howat.—p. 1313.
*Congenital Stenosis of Aorta. R. O. Moon.—p. 1314.
Obstruction Due to Formation of Spur After Finney's Operation. R. P. Rowlands.—p. 1315.

Protein in Nephritis.—There does not seem to be any theoretical objection to giving protein or urea in large amounts to parenchymatous cases in which there is no retention of nitrogenous products in the blood. In interstitial cases where such retention tends to be more or less well marked, it is generally considered that protein, especially in the form of meat, is, on the whole, contraindicated. There is, however, no proof whatever, in the opinion of MacLean and Russell that protein acts detrimentally even in advanced interstitial nephritis, but, on general principles, it is probably best to limit the intake of protein in patients showing marked retention of nitrogenous products in the blood. On the other hand, it seems quite certain that milder cases of interstitial nephritis are not benefited by very strict dietetic limitations. As the result of very many observations, the authors are convinced that, in general, patients suffering from interstitial nephritis of moderate severity should be allowed a fairly liberal diet in which protein need not necessarily be cut down to any great extent. In very severe cases it is probably best to depend chiefly on carbohydrate food.

Significance of Fever in Cancer.—The fever of cancer uncomplicated by inflammatory lesion is termed "growth fever" by Gordon on the assumption that the fever is produced by some process of the growth itself apart from inflammation; and the fever caused by any inflammatory complication of a cancer, he terms "complicated fever." Gordon classifies cancer according to the type of fever occasionally found in conjunction therewith: A. Either growth fever or complication fever: liver, stomach, suprarenals, lung with mediastinum, long bones, breast (rarely). B. Complication fever only: gallbladder, bile ducts, large intestine, small intestine, appendix, uterus, fallopian tubes, ear, glands in neck, tongue, lip, esophagus, pancreas, peritoneum, rectum, eye, larynx, thyroid. C. Neither form of fever: kidney, ovary, vulva, testis, penis, urethra, parotid, jaw, brain, spine, skin, muscles, heart and pericardium.

Cerebral Reactions Following Use of Neo-Arsphenamin.—The conclusion arrived at by Hitch is that the widespread capillary hemorrhages, demonstrated by microscopic sections, afford a clear anatomic basis for the hypothesis put forward by Dudley that the symptoms are due to anoxemia, that this anoxemic condition is mainly produced by interalveolar hemorrhage into the lungs, and to a less extent by interstitial capillary bleeding into other organs, and that the continuous administration of oxygen offers the best hope of recovery in these unfortunate cases. These appearances would also seem to explain in part the rapid development of the symptoms and the comparatively slow recovery, as instanced by Parnell's case resulting from the continuous administration of oxygen.

Traumatic Rupture of Heart, Liver and Kidney.—A well built man, aged 23 years, sustained a clean, unbroken fall of 45 feet, alighting on a wooden plank and some steel plates lying on the ground. He was not killed outright, but was dead on his arrival at the hospital twenty minutes later. On postmortem examination of the body, preliminary inspection revealed no damage beyond a few scratches and bruising at the right elbow. A deliberate examination by inspection and palpation showed no further evidence of bruising, laceration, fracture, or dislocation. The peritoneal cavity contained about 2½ pints of fluid blood, of which the source appeared to be five transverse lacerations of the right lobe of the liver—four on its upper, one on its under surface immediately to the right of the transverse fissure. There was a considerable quantity of blood effused into the retroperitoneal tissue. There were two transverse tears about half an inch apart on the front of the right kidney near its middle, one through little more than the capsule, and one about ¼ inch in depth through practically the entire width of the kidney. No other source of retroperitoneal hemorrhage was found. No other abdominal injury was discovered. The pericardium was intact and contained about a pint and a half of human blood. A slitlike opening into the cavity of the left auricle was found, about 0.25 cm. in length, and situated exactly in the length of the free edge of the left auricular appendage.

Congenital Stenosis of Aorta.—The special points of interest in Moon's case are the very few symptoms calling attention to the heart, combined with the pronounced physical signs and the comparatively slight impairment of the patient's general activity. The patient was 11 years old. He had a congenital stenosis at the level of the aortic valves. He was always active and energetic and could always walk a fair distance and even play football without becoming breathless or tired, though he got breathless sooner than other boys. In general appearance he was distinctly undersized, very pale, but bright and intelligent looking. The apex beat was in the fifth space in the nipple line, with a somewhat forcible cardiac impulse and the dulness was increased a trifle to the left. Over the aortic area there was a very coarse systolic thrill, which was also palpable over the carotid arteries. All over the precordial area there was a harsh systolic murmur, having a maximum intensity at the second right interspace, where it could be heard several inches from the chest wall. Pulse was small in volume, rate 70. In the electrocardiogram the T-wave was inverted in Leads II and III while in Lead III the P-wave was inverted. There was no evidence of left-sided preponderance.

June 26, 1920, **1**, No. 5052

*Influence of Nerve Impulses on Visceral Disorders. H. T. Gray.—p. 1345.
Treatment of Convalescent Soldier. T. E. Sandall.—p. 1352.
*Postsalvarsan Jaundice. R. Hallam.—p. 1356.
Surgery of Congenital Hypertrophic Stenosis of Pylorus. R. Warren.—p. 1359.
*Fistula of Parotid: Improved Method of Cure. H. Curtis.—p. 1360.
Assessment of Hand Injuries. J. J. Scanlan.—p. 1361.
Enterococcus as Factor in Certain Types of Dysentery. S. M. Ross and C. F. Peckham.—p. 1362.
*Two Cases of Intestinal Obstruction. W. E. Tanner.—p. 1363.
*Hair Ball in Ileum Causing Obstruction. H. R. Gibson.—p. 1363.
Lateral Intestinal Anastomosis Through Vagina. J. G. Watkins.—p. 1364.
Right Mastoid Suppuration Causing Left Sided Facial Paralysis. E. W. Williams.—p. 1364.

Nerve Impulses as Cause of Visceral Disorders.—The aim of Gray's study of more than 300 intestinal cases has been to show that there is a large group of visceral disorders primarily initiated by a derangement of normal nerve impulses. It is a law of the intestine that increased work is always responded to by increased effort leading to hypertrophy. This truth is exemplified clinically in the results of mechanical obstruction in every part of the gastro-intestinal tract, while, physiologically, it has been demonstrated by the work of Bayliss and Starling. No such hypertrophy is ever seen in the visceral disorders under discussion, and this fact alone constitutes an a priori refutation of any mechanical origin as applied to the bowel itself. The establishment of attenuation and muscular relaxation of the colon, so characteristic of this group of disorders, is only possible if this physiologic response to an increase of work is prevented, either by primary intramural disease, or by prolonged active inhibition of its musculature, due to abnormal direct or reflex nerve impulses. The rôle of the mesentery is to carry vessels and nerves to and from the intestine and never to act as a supporting structure; when it so acts (e. g., in congenital mobility of the colon) mechanical stimulation of the contained nerves results. The truth of this is evidenced experimentally and at operations. Gray asserts that it is equally true pathologically.

Jaundice After Arsphenamin Injection.—Attention is directed by Hallam to the prevalence of jaundice occurring during the treatment of syphilis with arsenobenzol preparations, and he shows that it is relatively more frequent with some preparations than with others. Clinically, the attacks are usually very similar to the ordinary catarrhal jaundice. The patient usually recovers in from two to six weeks. Cases, however, have been recorded which have commenced as apparently a mild attack, but have become progressively worse, and terminated as acute yellow atrophy. For this reason alone, although this occurrence is rare, jaundice developing either before or after treatment of syphilis is of extreme importance. Hallam analyzed a series of cases in order to determine what might have caused this complication. It occurred relatively more frequently after the use of arsenobenzol preparations (neosalvarsan, neokharsivan, novarsenobillon, etc.), but the causation is as yet undetermined.

Operation for Fistula of Parotid.—Curtis describes a seton operation which effected a cure in two cases of fistula.

Intestinal Obstruction by Hair Ball.—Two cases are reported by Tanner: (1) obstruction of the small intestine by a large hair ball, and (2) strangulation of the small intestine by the appendix acting as a band. He claims that no case like the first is on record.

Hair Ball in Ileum Causing Obstruction.—Gibson cites the case of a boy, aged 6 years, from whose ileum he removed a hair ball which had caused obstruction.

Medical Journal of Australia, Sydney

May 22, 1920, **1**, No. 21

Four Cases of Syphilis of Central Nervous System. I. Morgan.—p. 477.
Cerebral Syphilis. H. G. Allen.—p. 481.
Surgery as It was Practiced Thirty Years Ago. N. J. Dunlop.—p. 482.
Selecting Suitable Donors for Blood Transfusion. R. Dick.—p. 486.
Bronchitis Due to Empyema of Maxillary Antrum. A. E. Mills.—p. 487.

May 29, 1920, **1**, No. 22

Special Military Surgery. R. Davies.—p. 501.
Infantile Hernia, Enormous Hernia and Gibbon's Hydrocele. R. H. Russell.—p. 505.

Bulletin Médical, Paris

May 22, 1920, **34**, No. 27

*Respiratory Insufficiency of the Apex. E. Sergent.—p. 469.

Respiratory Insufficiency of the Apex.—Sergent refers to a functional hypocapacity of the apex, usually bilateral, and usually associated with malformation of the bony frame of the chest, low index of robusticity, anemia, asthenia and often adenoids. Not enough air gets into the apex. The region does not share in ample excursions, and the respiratory muscles and diaphragm are weak, the habits of breathing defective, but with careful examination the danger of mistaking this functional hypocapacity for tuberculosis can be avoided. Breathing exercises, the spirometer, and restoring the permeability of the nasopharynx will generally restore clinically normal conditions.

Bulletins de la Société Médicale des Hôpitaux, Paris

May 7, 1920, **44**, No. 16

*Is Acute Febrile Chorea Epidemic Encephalitis? P. Harvier and C. Levaditi.—p. 583.
*Treatment of Chronic Tuberculous Infections with the Salts of Cerium Metals. H. Grenet and H. Drouin.—p. 589.
*Chemotherapy of Tuberculosis with Sulphates of Cerium Earths. L. Rénon.—p. 602; Idem. Esnault and Brou.—p. 606.
Continuous Pylorospasm with Chronic Dilatation of the Stomach. F. Ramond and R. Clément.—p. 616.
Reduction of Vesicular Murmur of Right Lung with Catarrhal Jaundice and Gallstones. F. Ramond, Vincent and R. Clément.—p. 619.
Atypical Meningeal Reaction and Cardiac Lesions in Miliary Tuberculosis. G. Brouardel and E. Fatou.—p. 621.
Meningococcus Purpura. A. Netter and others.—p. 630.
Tuberculous Meningitis after Antirabies Treatment. P. Carnot and C. Gardin.—p. 633.
Lethargic Encephalitis. Rieux and others.—p. 636; 646; 648; 650.
Emetin in Treatment of Hemoptysis. C. Colbert and R. Bazin.—p. 641.
Treatment of Epilepsy with Phenylethylbarbituric Acid. C. Vincent.—p. 644.

Febrile Chorea and Epidemic Encephalitis.—Harvier and Levaditi think that certain cases of acute febrile chorea are a manifestation of acute epidemic encephalitis, basing this assumption on the histologic findings in a case described in detail and the effects of inoculation of animals with the nerve centers. Souques has reported two similar cases; in one the acute chorea merged finally into typical lethargic encephalitis.

Treatment of Tuberculosis with Salts of Cerium.—This communication from Grenet and Drouin, relating their success in treating different forms of chronic tuberculous infection, is a logical sequence of the research on cerium and other uncommon metals which Rénon, Frouin and others in France have been conducting [for eight years] in tentative chemotherapy of tuberculosis. Two facts seem to be established, namely, that the salts of the cerium earths reduce the fats of the tubercle bacillus in cultures to which these salts have been added, and that these salts induce a mononuclear leukocytosis in man and animals. Grenet and Drouin selected the sulphates of samarium, neodymium and praseodymium, and here report a year's work with the clinical application of these cerium metals. They inject by the vein from 2 to 5 c.c. of a 2 per cent. solution for twenty days; then suspension for fifteen or twenty days, and then a second and a third series of injections. They summarize the details of 8 cases of tuberculous glands; 10 of lupus; 5 of verrucous tuberculous lesions; 8 of erythematous lupus, and 23 of pulmonary tuberculosis. The external tuberculous lesions healed and chronic apyretic pulmonary tuberculosis showed considerable improvement if not an actual cure. The general health improved, the expectoration became less purulent and less profuse, the physical signs became modified and disappeared and the bacilli sometimes disappeared from the sputum or if they were still found in the sputum they showed extremely pronounced modifications and took stains badly. Three guinea-pigs inoculated with these modified bacilli, after losing weight for two weeks, had regained their health by the end of two months. A fourth, recently inoculated, shows no signs of disease, confirming the great reduction in the virulence of the bacilli. Grenet and Drouin add "Will the latent and well tolerated lesions flare up again? Time alone will tell, but the improvement in all seems to be continuing, and the apparent cure has persisted now for several months. . . . The results, such as they are, are very interesting: a direct action on the bacillus, an action on the human organism by favoring the production of sclerosis, perhaps on account of the enormous mononuclear leukocytosis induced." In conclusion they reiterate that these cerium salts should be used with pulmonary tuberculosis only in the afebrile cases, stopping at once if fever develops. "If these precautions are not observed, discredit may be brought on a method which is still only in the period of being studied, but which already seems to offer real hope."

Salts of Cerium Metals in Chemotherapy of Tuberculosis.—Rénon reviews his eight years of research on a large number of salts of not commonly used metals, hoping to find some that would reduce the virulence of the tubercle bacilli in the organism while rendering the soil of the organism less favorable for its development. The sulphates of some of the cerium metals reduce the fats of the tubercle bacillus from 25 or 40 per cent. to 22 or 16 per cent. He mentions other salts which induce mononucleosis in man and animals but are too toxic for clinical use, and adds, "The results obtained by Grenet and Drouin with the sulphates of the cerium earths are certainly the most scientific yet realized in the chemotherapy of tuberculosis. In controlling their results, their technic must be carefully followed, and the warning heeded that in acute forms of tuberculosis no benefit follows and the lesions may even be aggravated." In the five cases he has just begun to treat, the injections are well tolerated and the leukocytosis has run up from 10,000 to 20,000, 26,000 or 40,000 with from 18 to 23 per cent. mononuclears.

Sulphates of Cerium Metals in Pulmonary Tuberculosis.—Esnault and Brou report their experience with the Grenet and Drouin method in twenty cases, and say that the number of cases of unquestionable improvement is impressive if the gravity of the cases is taken into account, and it permits the highest hopes of progressive improvement to a cure. This will be the rule, they say, when treatment is applied in the early stage without waiting for advanced pulmonary lesions. They add that as the treatment seems to act on the tubercle bacilli alone, it might be advisable to add some medication to act on the secondary infections. [Frouin in a communication read before the Paris Académie de médecine, April 6, 1920, reported encouraging results from the application of the salts of earths of the cerium group to torpid suppurating ulcerations. He stated that 2 or 4 per cent. solutions of these salts and especially of the sulphates of the cerium group promoted healing, hastening the formation of derma and epithelium layers and seemed to have an antiseptic action while less irritating than the nitrates and chlorids. L. Rénon also has been studying since 1912 these salts of cerium metals in the chemotherapy of tuberculosis, and in a communication read at the Académie de médecine, March 4, 1920, he referred to his work and the difficulty of such research, as it requires study of the action of the chemical on cultures of the bacillus, study of the toxicity of the chemical for animals, at least for the dog, rabbit and guinea-pig; if the toxicity is slight, study of its action on experimental and spontaneous tuberculosis in animals and then in human tuberculosis. Chemotherapy, he said, might be aided by withholding from the tuberculous those substances, such as potassium, magnesium, phosphorus, sulphur and iron which seem to be indispensable for the proliferation of bacteria in culture mediums. He lists nearly two dozen salts of rare metals which have an inhibiting influence in vitro on the tubercle bacillus; among them he mentions cadmium fluorid and chlorid, neodyme sulphate and praseodyme sulphate, lanthane sulphate, and the salts of bismuth, of silver, of gold, of selenium, etc.]

Lyon Médical

May 25, 1920, **129**, No. 10

*Tuberculous Nature of Gastric Ulcer. Mongorge.—p. 429.
The Rôle of the Lamblia in Intestinal Pathology. F. Deglos.—p. 434.
Compulsory Notification of Tuberculosis. Piéry.—p. 464.

Tuberculous Nature of Simple Ulcer of the Stomach.—Mongorge argues that simple ulcer is of toxi-infectious

origin, and as tuberculosis is the toxi-infectious disease *par excellence*, and as Jaksch and Brinton assert that 25 per cent. of patients with simple gastric ulcer die of pulmonary tuberculosis, the conclusion seems evident that round ulcer is often of tuberculous origin. He summarizes ten personal cases in which the round ulcer developed in a tuberculous patient, or pulmonary tuberculosis developed in persons with gastric ulcer. In another case hemoptysis from pulmonary tuberculosis seesawed with hematemesis from a gastric ulcer. In one case there was a sequence of round gastric ulcer at 30, pulmonary tuberculosis at 36 and lupus at 45. All were cured in turn, and the woman, now 50, is in good health.

June 10, 1920, **129**, No. 11

*Familial Diseases. J. Audry.—p. 469.

Familial Diseases and Malformations.—Audry reviews the literature on this subject, citing among others Sanger Brown's case with cerebellar heredo-ataxia in five generations, with 25 cases among the 55 members. Audry himself has encountered a family with 15 cases of hemorrhagic telangiectasia in four generations. Truc was able to trace hemeralopia through ten generations in the Nougaret family, 137 having had night blindness among the 2,137 members. Certain regions seem to predispose to hemophilia, such as southern Germany and Switzerland. The Gintrac district statistics include 48 German, 9 Swiss and 8 French families with hemophilia. The czarevitch was a hemophiliac, as also the sons of Henry of Prussia and their mother, who is the sister of the former Emperor Wilhelm. Among the instances of familial malformations cited, Audry mentions the nevi found in the Drieux family from the fifteenth century to date. Baroux found records of the nevi in 41 female members of the family and all at the same points, places where the armor exerted pressure in the early days of the family. The village of Yzeaux, in Audry's own region, is noted for the six fingers and toes of the inhabitants. Potton in 1829 and 1836 published an account of this community malformation, the records showing that in the eighteenth century nearly all the inhabitants were *sexdigiti*. Devaix confirmed this in 1862, but Bénard has recently reported that the anomaly is dying out, only three families with polydactylia being discovered there now. It seems to be the rule that with familial malformations and diseases of a continuous heredity type, if the subject is sound, no restrictions need be imposed on marriage, and the same applies to the male descendants in families with familial disease transmitted by the mother. Familial diseases of the fraternal or recessive type, such as deafmutism and pigmented retinitis, are less inclined to reappear than the others mentioned above, but consanguineous marriages, no matter how remote the connection, are sometimes highly dangerous.

Paris Médical

May 22, 1920, **10**, No. 21

*General Paresis in Tuberculosis. S. Roque and V. Cordier.—p. 417.
Pilomotor Reflex with Paresthetic Meralgia. André-Thomas.—p. 422.
*Acute Pulmonary Edema and Blood Pressure. L. A. Amblard.—p. 425.

General Paresis in Tuberculosis.—Roque and Cordier describe a case of apparently typical paretic dementia in a man of 50 with pronounced tuberculosis of long standing and syphilis acquired thirty-four months before death. Necropsy revealed tuberculous meningitis and old tuberculous lesions in the cortex. They do not venture to decide whether the case is one of general paresis masquerading as an ordinary lesion, or whether the tuberculous leptomeningitis realized the syndrome of syphilitic general paresis.

Acute Pulmonary Edema.—Amblard states that, in his experience, the persons who developed acute edema of the lungs always had a history of hemoptysis at some time or blood streaked sputum, possibly ascribed mistakenly to tuberculosis, or after trauma. In two cases in which the pulmonary edema developed under his eyes, he noted that the high blood pressure ran up still higher, both the minimal and maximal pressure showing a rise of several degrees. Then suddenly the pressure dropped, the maximal from 280 to 140 mm. mercury, for example; the minimal from 180 to 100, while the pulse ran up from 70 to 130. Venesection tided through the period of dyspnea, but the heart was still unequal to its task, and the blood pressure never returned to its former figure. Although the latter was abnormally high, yet this was necessary to ensure adequate circulation even although this was still below normal. Each attack reduces it still lower. The onset in each is sudden, but each is always preceded by the giving way of the ventricle; then the blood pressure drops, and this in turn is followed by the acute edema in the lungs, but the heart action keeps up and there is no arrhythmia. The cause of the sudden weakening of the ventricle is still a mystery, he says, but much can be accomplished in treatment with drugs to combat it and dieting to relieve the kidneys of all unnecessary work. The prompt benefit from venesection cannot be from reduction of the blood pressure, as this is not accomplished by clinical venesection; nor from escape of toxins, as this is likewise insignificant and the effect would be more gradual; nor from modification of the composition of the blood, as this could not occur so promptly.

Presse Médicale, Paris

June 2, 1920, **28**, No. 36

*Urobilinuria. M. Labbé and P. A. Carrié.—p. 353.

Urobilinuria.—Labbé and Carrié reaffirm that urobilinuria is evidence of functional insufficiency of the liver. The bile pigments entering the bowel become transformed into urobilin. Part of this is voided in the stools (stercobilin), but the rest is reabsorbed and carried to the liver. The liver utilizes it anew, probably to make bilirubin, but if the liver is not functioning properly, some of the urobilin passes through it unmodified and gets into the blood and passes from the blood into the urine. Urobilinuria thus requires (1) the presence of stercobilin in the intestines, which implies the permeability of the biliary passages, and (2) functional insufficiency of the liver. There can be no urobilinuria at the height of jaundice from retention. In a recent case a man with chronic jaundice from obstruction of the bile ducts by a lesion in the pancreas, had no urobilinuria, not even after the liver functioning had been relieved by fastening the gallbladder to the skin so that bile production and evacuation proceeded practically normally except for the participation of the intestines. A second operation joined the gallbladder to the small intestine; the only change from the previous condition was that the bile entered the bowel instead of being voided through the fistula, and urobilin promptly appeared in the urine anew. Of course bilirubin may become transformed into urobilin elsewhere than in the bowel, but this is exceptional and comparatively insignificant. Fischler's dogs with a bile fistula had no urobilinuria unless they were allowed to lick the bile from the fistula or were given bile by the mouth, or were injected by the vein with distilled water, the latter confirming the possible hematic origin, although under conditions scarcely realizable in the clinic.

Revue Franç. de Gynécologie et d'Obstét., Paris

April, 1920, **15**, No. 4

*Spinal Anesthesia. P. Delmas.—p. 145.
*The Minimal Blood Pressure with Hemorrhage. P. Balard.—p. 154.
Retention of Urine from Genital Tumor. G. Deverre.—p. 163.
*Fatal Embolism in Course of Pregnancy. S. Remy.—p. 172.

Spinal Anesthesia for Gynecologic and Obstetric Operations.—Delmas expatiates on the superior advantages of spinal analgesia for these interventions, and especially when done with cocainized spinal fluid, an ampule of 0.02 gm. cocain being dissolved in the spinal fluid for a fifteen minute operation.

The Minimal Blood Pressure with Hemorrhage.—Balard refers in particular to severe puerperal hemorrhages, saying that the maximal arterial pressure gives no indication of the actual decline of the blood pressure in these cases. In four cases described in detail the minimal pressure of 5 was the extreme limit, these patients dying, while all recovered with

a minimal pressure of 7, although the clinical picture seemed identical in all.

Embolism Early in Pregnancy.—Remy reports a case in which the mild phlebitis of the internal saphenous vein entailed sudden and fatal embolism; it happened to occur during the physician's casual call to inspect the phlebitis. The woman was lying quietly in bed at the time. In Lancereaux' case the embolism occurred with phlegmasia of both legs, the patient recovering. In three other cases, the embolism was fatal, although the phlebitis was insignificant. Possibly citric acid might ward off embolism.

Rivista di Clinica Pediatrica, Florence

April, 1920, **18**, No. 4

*Scurvy in Children. U. Franchetti.—p. 193.
Should Foundlings' Asylums Be Abolished? R. Fuà.—p. 211.
*Progressive Lenticular Degeneration. A. F. Canelli.—p. 232.

Scurvy in Children.—Franchetti reports a case in which the retrospective diagnosis was chronic scurvy without any acute phase. Before the age of 3 there probably was an unsuspected stomatitis which interfered with normal eating, so the child refused to eat anything but boiled milk and coffee. At 3, and again at other periods later there was painful paraplegia, sometimes with stomatitis, maintaining the vicious circle. Neuritis was diagnosed, and although the physician ordered a change of diet, this was not enforced. At 5 the roentgenograms showed extreme dystrophy of the bones in and near the knees and the painful paraplegia, cachexia and anemia were severe, with absolute anorexia, but there never had been any tendency to hemorrhages.

Progressive Lenticular Degeneration.—Canelli analyzes what has been published on this disease since Wilson's description of it in 1912. Higier has reported on a family in which the father at 30 developed paralysis agitans, and one child has this Wilson's disease and another the Westphal-Strümpell pseudosclerosis. In Schütte's case the clinical course suggested the former, the necropsy findings the latter.

Archivos Latino-Amer. de Pediatría, Buenos Aires

March-April, 1920, **14**, No. 2

Subacute Meningitis. J. Bonaba and V. Zerbino.—p. 97.
Scrap of Glass in Lid for Six Years. J. de Salterain.—. 105.
Meningitis in Two Months Infant. A. Rodriguez Castro.—p. 107.
*Serotherapy for Defective Development. C. Ferreira.—p. 109.
*Oculomotor Paralysis in Infant. J. P. Garrahan.—p. 114.
Traumatic Rupture of Spleen in Boy. A. Buzzi.—p. 122.
Classification of Dyspepsia in Infants. Martagão Gesteira.—p. 129.

Horse Serum in Treatment of Dystrophy and Hypotrophy in Infants.—Ferreira confirms R. Freeman's statements in regard to the stimulating action of horse serum when an infant is not developing properly. It seems to whip up the sluggish metabolism and nutrition in general so that the child afterward progresses more or less normally. He injected it in three cases here described. One of the infants weighed only 3,750 gm. at the tenth month when the serotherapy was started, and the benefit was so unmistakable that it was kept up for sixteen months, the child having thus been given 2,386 gm. of the serum, and its weight showing a regular increase. He began with 2.5 c.c. but soon reached the dose of 20 c.c., repeated two or three times a week. A 3 months babe improved so rapidly after the serotherapy was begun that the latter could soon be dropped, the improvement continuing thereafter. None of the three infants was entirely breast fed.

Oculomotor Paralysis in Infant.—The paralysis persisted unmodified for a month, but subsided completely as soon as tentative antisyphilis treatment was begun.

Brazil Medico, Rio de Janeiro

March 6, 1920, **34**, No. 10

*Prognosis with Angina Pectoris. Pinheiro Guimarães.—p. 151.
Action of Currents of Air on the Frog. M. Ozorio de Almeida.—p. 156.
Prophylaxis of Influenza. Nery da Costa.—p. 157.

Prognosis of Angina Pectoris.—Pinheiro warns of the harm from suspending the Damocles sword of angina pectoris over the head of a person suffering merely from the effects of swallowing air or of some neuropathy. A history of intoxications and infections is instructive, especially syphilis, and alcohol and tobacco poisoning. On the whole, he reiterates, nothing justifies a definite prophecy as to the immediate outcome, the symptoms, evolution and pathologic anatomy being so widely diverse in different cases. He gives the details of a number in which the orders to lead a quiet life were disregarded, and a recurring attack proved fatal within a few months. One man of 42 has had several attacks but two years have passed and he is still active. This patient has a low blood pressure and weak heart sounds.

Semana Médica, Buenos Aires

Feb. 12, 1920, **27**, No. 7

Peduncular Hemorrhage. A. Bergman and M. Ruet.—p. 213.
*Auscultation of the Fetus. H. Colmegna and S. Varalla.—p. 219.
History of Insanity in Argentina. J. Ingenieros.—p. 220.
Public Hospitals and Charities System in Uruguay. Coni.—p. 233.

Auscultation of Twin Pregnancy.—Colmegna and Varalla report a case and cite two others which confirm the differential importance of auscultation of a single and intense focus of fetal heart sounds in the clinical picture of hydramnios. The fetal heart beat is heard exceptionally distinctly at a single point. This is actually pathognomonic with twin pregnancy when hydramnios obscures the clinical findings.

Feb. 19, 1920, **27**, No. 8

*Absorption of Solid Particles by Peritoneum. J. Dutrey.—p. 249.
Tuberculin in Surgical Lesions. O. Copello.—p. 253.
*Papillomas in Child Larynx. A. Quadri.—p. 254.
Advantages of Film Treatment of Burns. V. Conti.—p. 263.
The International Congress of Medical Women. Alicia Moreau.—p. 276.

Absorption of Solid Particles in the Peritoneum.—Dutrey's research has confirmed that the lymphatics, omentum and diaphragm, take up and retain for a time at least the solid particles injected into the peritoneal cavity. The blood vessels do not seem to share in this task, none of the particles of India ink injected having ever been refound in the blood vessels. There do not seem to be any direct routes of connection between the peritoneal cavity and the spleen, liver and kidneys. The few leukocytes containing any of the particles which were found in these organs had evidently found their way to them by way of the lymphatics and thoracic duct.

Papillomas in Child Larynx.—Quadri has had one case in which multiple papillomas in the larynx retrogressed so that the child, now 11, has no further inconvenience or danger from the tumors; he first saw the papillomas at the age of 2. Another girl required tracheotomy on account of a second recurrence after operation. The one small tumor left was coughed up later. He thinks that probably many cases of papilloma escape detection and the tumors retrogress later. His practice is to remove the tumors even in emergency cases, thus avoiding tracheotomy unless absolutely compelled, supplementing the surgical measures with arsenic internally. He advocates radium treatment after tracheotomy but warns that without this it is liable to induce suffocation from the congestion it induces, and thus compel an emergency tracheotomy, as occurred in one of his cases.

Siglo Médico, Madrid

April 17, 1920, **67**, No. 3462

Hemorrhagic Septicemia. Muñoyerro and Calvin.—p. 281.
Pathology of Suprarenals in Tetanus. C. Sabucedo.—p. 283.
Treatment of Typhus. J. Francos Rodriguez.—p. 284.

April 24, 1920, **67**, No. 3463

Epidemic of Measles. B. Hernández Briz.—p. 301.
*Epileptiform Seizures Under Neo-Arsphenamin. J. Bejarano.—p. 302.

Epileptiform Seizures Under Arsphenamin.—The young man had been given two injections of neo-arsphenamin at a week interval (0.15 and 0.3 gm.), and two days later he had two severe epileptiform seizures with loss of consciousness for two hours. He had never had anything of the kind before, but it was learned later that a brother was epileptic. Henceforth Bejarano intends to investigate the family as well as the individual antecedents before giving arsphenamin.

Deutsche medizinische Wochenschrift, Berlin

Jan. 22, 1920, **46**, No. 4

Traumatic Psychoneuroses. M. Reichardt.—p. 89.
*Silver Arsphenamin in Treatment of Syphilis. F. Hahn.—p. 92.
*Blocking of the Splanchnic Nerves. G. Buhre.—p. 93.
*Treatment of Tetanus by Multiple Routes. Eberle.—p. 94.
Operations in Penetrating Gunshot Wounds. O. Heinemann.—p. 96.
Operations for Inguinal Hernia in Infants. Kern.—p. 97.
*Laryngeal Perichondritis Simulating Thyroiditis. A. Brüggemann.—p. 97.
Was it Murder or Suicide? Schütz.—p. 99.
*Nitrobenzene Poisoning from Delousing Remedy. L. Wolpe.—p. 100.
The Mortality in Denmark During the War. Prinzing.—p. 100.
Dermatologic Hints for the Practitioner. M. Joseph.—p. 101.

Silver Arsphenamin in Treatment of Syphilis.—Hahn has been using silver arsphenamin for two years and now reports the results, after treating 300 syphilitics and giving nearly 4,000 intravenous injections. He endeavors to justify his standpoint that syphilis early diagnosed should be treated energetically and with large doses of arsphenamin, even though there may be some risk involved. He regards silver arsphenamin as the best form of arsphenamin, saying that in its action it is much superior to arsphenamin sodium and neo-arsphenamin, and is at least equal, if not superior, to arsphenamin (old salvarsan). He adds that silver arsphenamin is to be put on the market soon. He used no mercury or other medication in connection with the silver arsphenamin treatment, though he admits that possibly better results might be secured with a combination of silver arsphenamin and mercury. On account of the dark brown color and the lesser solubility, silver arsphenamin is more difficult to inject than arsphenamin sodium and neo-arsphenamin. Injections improperly given are painful. He gives ordinarily 0.1 gm. as an initial dose for both men and women, and has seen no pronounced bad effects. He uses a 1 to 1.5 per cent. solution. Twelve injections of 0.25 gm. each, given twice a week (3 gm. in all) constitute a vigorous course of treatment.

Blocking of the Splanchnic Nerves for Operations on the Upper Abdomen.—Buhre describes the Braun method of blocking the splanchnic nerves, for operations on the upper abdomen, after the abdomen has been opened by a median incision. He has used the method in 104 cases and found the technic remarkably simple. The anesthetic effect is prompt and lasts from one and a half to two hours, and no danger for the patient is involved. He therefore recommends it as the method of choice in all operations on the upper abdomen, especially gallstone operations.

Serotherapy of Tetanus by Multiple Routes.—Eberle reports three cases of tetanus in which on the fifth to the seventh day after the appearance of the first symptoms he treated the patients with intracranial, subdural and intraspinal antitoxin injections, according to the Betz-Duhamel technic. No improvement followed and the three cases resulted fatally. H. Smidt has also reported eight cases of tetanus which were treated by the same multiple routes, the serotherapy being begun in from six to twenty-four hours after the first symptoms became manifest, but all these patients died likewise. Eberle expresses the wish that all who have had experience with this direct method of serotherapy might report their results. Betz and Duhamel reported three recoveries in four severe cases, and others similar experiences, so that there was a record of eight recoveries in ten severe cases of tetanus, until the Eberle and Smidt series of eleven fatal cases.

Laryngeal Perichondritis Simulating Thyroiditis.—Brüggemann reports a case of acute laryngeal perichondritis, in which edematous swellings appeared on the outside of the throat simulating the picture of acute thyroiditis. Sensitiveness to pressure was, however, confined to the larynx, which ruled out thyroiditis. Pressure symptoms elicited in the thyroid were doubtless due to the fact that in pressing on the thyroid a certain amount of pressure is brought to bear on the larynx.

Nitrobenzene Poisoning Following Use of Delousing Remedy.—Wolpe reports two cases of nitrobenzene poisoning in two children of 10 and 12. Their mothers had used on their heads a delousing remedy containing nitrobenzene. The writer demands that druggists be restrained from dispensing nitrobenzene unless the buyer holds a special permit, and that the use of nitrobenzene in delousing remedies and in cosmetics in general be prohibited by law.

Medizinische Klinik, Berlin

April 25, 1920, **16**, No. 17

The Genesis of Poisons in the Blood. H. Freund.—p. 438.
Cesarean Section on the Dead and Moribund. Linzenmeier.—p. 439.
*Congenital Luxation of Hip Joint. S. Peltesohn.—p. 442.
Urobilinogen, Urochromogen and Diazo Reactions in Urine of the Tuberculous. K. Dietl and B. Szigeti.—p. 444.
Syphilitic Aortitis and the Wassermann Reaction. G. Bock.—p. 447.
The Increase in Chancroid Infections in Berlin. E. Borchard.—p. 449.
Changes in the Working Muscle. O. Meyerhof.—p. 451.

May 2, 1920, **16**, No. 18

Toxic Desquamative Inflammations of the Esophageal and Gastric Mucosa. H. Eichhorst.—p. 463.
Harmlessness of Postpneumonic Râles in Children. P. Karger.—p. 466.
Artificial Respiration in Morphin Poisoning by Puncture of the Trachea. E. Becker.—p. 467.
Paratyphoid Bacteriuria. G. Herrnheiser.—p. 469.
Zygomaticitis with Otitis Media. A. Seligmann.—p. 471. Continued.
Local Oil of Turpentine Injections in Adnexitis. Hartog.—p. 474.

Diagnosis and Treatment of Congenital Luxation of the Hip Joint in Infants.—In view of the great advantage of the early diagnosis and immediate reduction of a congenital luxation of the hip joint, Peltesohn emphasizes that physicians should take pains to examine the hips as reduction of a luxation during infancy is usually child's play, whereas after the child has begun to walk it becomes increasingly difficult. The ordinary circular plaster cast cannot be used on infants as it cannot be kept clean, but he recommends and describes in detail a special splint that he has found very useful in dealing with infants.

Münchener medizinische Wochenschrift, Munich

Jan. 23, 1920, **67**, No. 4

*Nonspecific Increase of Function. W. Weichardt.—p. 91.
Tuberculous Infection and Constitutional Diatheses. A. Wolff-Eisner.—p. 93.
*Water Put Up in Ampules for Intravenous Injections. G. L. Dreyfus.—p. 95.
*Osteomalacia in Munich. Heyer.—p. 98.
*Eosinophilia in Muscular Rheumatism. I. Synwoldt.—p. 98.
*Hemorrhage of Lung from Puncture. M. Flesch-Thebesius.—p. 99.
Prophylaxis of Venereal Diseases. F. Jenssen.—p. 100.

Nonspecific Promotion of the Functional Capacity.—Weichardt approves the term "activation of protoplasm" to express the peculiar promotion of the functional capacity of the entire system by various means, such as by exercise, by getting rid of fatigue products, by vaccination, but most strikingly, perhaps, by protein therapy, parenteral injections. These whip up the organism to increased functional achievement, a nonspecific *Leistungssteigerung*. The effect is not that the function is altered; it is merely intensified. The response varies in the normal and in the diseased, and in normal regions and in pathologic processes. He reviews the recent literature on the subject, citing in particular experiments with preliminary intensive radiation, inunction of mercury or sweating procedures, etc., to enhance the effect of the protein therapy.

Water in Ampules for Intravenous Injections.—Dreyfus finds it a very convenient and safe method for arsphenamin injections to use distilled water that has been put up in sealed ampules. Thus stored, distilled water may be kept for years unimpaired, but the ampules must be made of very hard glass that will give off little or no alkali.

Osteomalacia in Munich.—Heyer reports nine cases of osteomalacia traceable to the restricted war diet, which while they presented in the main the usual symptoms, showed also certain peculiar manifestations.

Eosinophilia in Muscular Rheumatism.—Synwoldt found marked eosinophilia (up to 18 and 22 per cent. of eosinophils), in 79 per cent. of thirty cases of acute muscular rheumatism. She thinks this has diagnostic importance.

Grave Hemorrhage of the Lung Following Diagnostic Puncture.—Flesch-Thebesius reports a case in which surgical puncture of the lung in a youth of 15 caused a hemorrhage

into an empyema cavity, which was not discovered at once and thus threatened the life of the patient.

Therapeutische Halbmonatshefte, Berlin

Feb. 1, 1920, **34**, No. 3

*Febrile Abortion. A. Heyn.—p. 65.
*Multiple Sclerosis. G. Steiner.—p. 68.
*Rumination in Infants. A. Ylppö.—p. 76.

Febrile Abortion.—Heyn reports from the Charité at Berlin a mortality of only 2.4 per cent. of the 410 cases of febrile abortion treated by active intervention, out of the total 578 febrile abortions. Almost 85 per cent. had return of normal temperature the same or the next day; 3.4 per cent. had fever for more than six days. After the middle of the fourth month, instruments are never used to clear out the uterus. Cautious and skilful dilatation of the cervix with laminaria first, for twenty-four hours, is the main thing.

Multiple Sclerosis.—Steiner has succeeded in inducing a paralytic disease in rabbits and guinea-pigs by inoculating them with fluid and blood from recent cases of multiple sclerosis, and a spirochete was found in their tissues. A monkey inoculated at the same time developed paralysis eighteen months later, and the brain showed changes analogous in almost every respect to those found in multiple sclerosis in man. Siemerling has also beheld living spirochetes in the brain two hours after death from multiple sclerosis. These facts justify tentative treatment with spirocheticidal drugs, Steiner asserts, but the results to date have been conflicting.

Rumination in Infants.—Ylppö has found that infants are not so likely to swallow air when they are fed lying prone, the head raised or turned on the side. The change to reclining on the abdomen is sometimes enough to break up a rebellious habit of rumination. If not, he has the child lie on a flat hammock, stretched from headboard to footboard of the crib. The unsteadiness, the movements of the hammock, supplement the change to the prone position, so that the child's attention is diverted, and it forgets its ruminating habit.

Feb. 15, 1920, **34**, No. 4

*General Principles of Organotherapy. L. Borchardt.—p. 97.
Treatment of Mental Disease. Raecke.—p. 101. To be continued.
*Dangers from Removing Bullet in Tissues. H. Curschmann.—p. 108.
*Splenectomy in Pernicious Anemia. W. Charlton.—p. 111.

The Principles of Organotherapy.—Borchardt recalls that some of the active substances isolated from certain organs display an action which has nothing to do with the original function of the organ, and warns that we must not overestimate the reciprocal or antagonistic action between different organ extracts. He cites as important Langley and Elliot's assertion that epinephrin in all its actions on any organ behaves the same as electric stimulation of the afferent sympathetic fibers of that organ. Suprarenal and certain other extracts seem to activate the protoplasm, and thus increase the functional capacity, like parenteral protein therapy. If the organ extracts contain any protein, there is a superposed protein therapy effect. Both suprarenal and pituitary extract increase the immune reactions. In typhoid, the former has increased the agglutinins from 1:20 to 1:5,120 or even 1:10,240, and pituitary up to 1:2,560. There is much to sustain the assumption that the hemostatic action of organ preparations is due to this promoting of the functional capacity. This is probably also the explanation of the benefit from transfusion of blood. The blood is destroyed, and at most its elements are used in the production of new blood. The promptly favorable effect is probably merely from stimulation of the functional capacity of the blood-producing system. Bone marrow and spleen extract may yield as favorable results in the line of regeneration of the blood as transfusion of blood itself. Pituitary treatment of typhoid, tuberculosis, cholera, etc., has been tried on this theoretical function-promoting basis, and with promising results in some circumstances. We have thus at our command a substituting hormone therapy, as in thyroid treatment of myxedema; a symptomatic hormone therapy, as in thyroid treatment of obesity; a ferment therapy, as in supplying the finished pepsin or a hormone which stimulates some special secretion; a hormone therapy seeking to utilize the reciprocal and antagonistic action of the endocrine glands, and, finally, we have the protoplasma activation therapy as in parenteral protein therapy. Hitherto, he adds, the application of these principles has been mostly empiric.

Danger of Extracting Bullet.—Curschmann reports a case of lead nephritis developing fifteen months after a bullet had entered the hip joint. The bullet was then removed but lead encephalitis followed the operation the second day, with fatal convulsions. He ascribes this to the particles of lead which had been absorbed into the tissues around, and had become mobilized by the operation when they had been in a way encapsulated before. The immediate increase in basophil granular erythrocytes in the blood testified to the intense aggravation of the lead poisoning. How to prevent this is a question. Leaving the wound open and promoting in every way the outward flow of lead-containing secretions will help. It is possible that by local infiltration of the tissues with some chemical, the lead might become transformed into an insoluble compound. Straub has suggested infiltration of the field of operation with sodium sulphate or the bicarbonate which might have the effect of sweeping the lead albuminate in the region into the kidneys, and thus get it eliminated before it had a chance to reach the central nervous system. This is analogous to the action of potassium iodid. Experimental research with a deposit of lead in the tissues has confirmed the acceleration of the resorption and elimination of the lead under internal treatment with potassium iodid. No chemical is known yet which will transform and hold the lead at the spot, but search should be made for such.

Splenectomy in Pernicious Anemia.—In Charlton's case the pernicious anemia retrogressed after splenectomy on the woman of 32, but her pulmonary tuberculosis did not seem to be modified by the improvement in the blood picture.

Wiener klinische Wochenschrift, Vienna

Jan. 29, 1920, **33**, No. 5

Nerve and Muscle Symptoms in Arthritis Deformans. M. Jungdahl.—p. 97.
*Treatment of Scabies. M. Oppenheim.—p. 102; Idem. F. Schönbauer.—p. 105.
Finger Ring on Root of Penis for Ten Years. Maresch.—p. 106.
*Treatment of Gonorrhea by Hot Baths. Kapferer.—p. 107.
Suction of Manometer Fluid with Induced Pneumothorax. E. Hoke.—p. 108.
Sarcophila Magnifica in Myiasis. J. Fiebiger.—p. 109.

April 22, 1920, **33**, No. 17

Epidemic of Encephalitis and Polyneuritis. Schlesinger.—p. 358.
Serotherapy in Influenza. E. Földes and K. Hajós.—p. 360.
1920 Epidemic of Lethargic Encephalitis. Economo.—p. 361. Conclusion.
Concrete As a Conductor of Electricity. S. Jellinek.—p. 364.

Treatment of Scabies.—Oppenheim reports that in the treatment of over 20,000 recent cases of scabies in the Wilhelmine Hospital, his modification of the Hardy treatment effected an entirely harmless and absolutely certain cure. The whole treatment is completed within a period of three hours, as compared with a week or more by older methods. He describes the method in detail and recommends that stations for the purpose be organized throughout the country.

Treatment of Gonorrhea by Hot Baths.—Kapferer found the Weisz method of treatment very weakening to the patients, some of whom were obliged to discontinue it. The results are very uncertain, and it requires the constant presence of physician and nurse. The aim is to kill the gonococci by heating the body to 40 C. (104 F.) or more and keep it at this point. The temperature of the deep bath is raised within fifteen minutes from 38 to 43 or even to 45 or 46 C. (114.8 F.).

Zentralblatt für Chirurgie, Leipzig

May 1, 1920, **47**, No. 18

Atony of Stomach with Arteriomesenteric Ileus. H. Nieden.—p. 418.
Infolding Suture in Gastro-Intestinal Surgery. Pribram.—p. 422.
Advantages of Nonhydrophil Gauze. Propping.—p. 424.
*Cello String for Thread-Saw in Stenosis of Esophagus. G. Kelling.—p. 425.

Wire-Covered Gut String as Thread-Saw.—Kelling, having found it difficult in using a thread-saw for cutting an esophageal stricture to get the thread past the stenosis, and to find the end again quickly through the gastrostomy opening, decided to use a wire-covered gut string such as is used on a cello, and has found it very satisfactory, chiefly because it does not kink so readily.

Zentralblatt für Gynäkologie, Leipzig

May 1, 1920, **44**, No. 18

*Kidney Disease in Relation to Pregnancy. T. Heynemann.—p. 449.
Criticism of "Twilight Sleep." R. T. von Jaschke.—p. 459.
Appendicitis with Adnexa Involvement. Hartog.—p. 461.
*Conservative Operation in Chronic Pyosalpinx. F. R. Brewitt.—p. 462.
Injury of Sigmoid Flexure in Induced Abortion. Schlüter.—p. 464.

Kidney Disease in Relation to Pregnancy.—Heynemann explains that, while a typical pregnancy glomerular nephrosis is not likely to develop into chronic nephritis, yet an acute exacerbation, during a pregnancy, of a previously existing glomerular nephritis may become chronic. In ordinary cases of pregnancy glomerular nephrosis, so long as there is no tendency to eclampsia, interruption of the pregnancy will very rarely be indicated, but with acute and chronic glomerular nephritis, interruption of the pregnancy must always be considered. In acute glomerular nephritis, if the blood content of the urine increases in spite of treatment or if it keeps at a high level, interruption of the pregnancy is imperative.

Conservative Operation in Chronic Pyosalpinx.—In the treatment of pyosalpinx, Brewitt has used turpentine injections in twelve cases and reports remarkable success. After a Pfannenstiel incision, the patient is placed in the Trendelenburg position. The intestines are walled off to expose the pelvis, and with a large cannula the tubal sacs are punctured, and the pus or serous fluid is aspirated. The cannula is left in the opening and a 10 per cent. solution of oil of turpentine (slightly less than the amount of fluid aspirated) is injected. The site of puncture is sutured with fine catgut. Then 4 or 5 c.c. of the solution are carefully injected into the passage of the tube from each end, to block the infection from spreading. If any loops of the small intestine or the sigmoid are adherent to the pelvic organs, the adhesions are broken up. Then the omentum is brought down and is spread out like a mantle so that it extends deep down into the Douglas pouch, and is sutured to the posterior pelvic wall, thus completely roofing over the pelvis. There was no postoperative fever, and prompt recovery followed. After-treatment consisted of warm sitz baths. In ten of the twelve cases so treated gonorrheal infection was present.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

April 10, 1920, **1**, No. 15

*Porphyrinuria with Colics. I. Snapper.—p. 1233.
Excentric Fixation for Strabismus. G. ten Doesschate.—p. 1250.
Danish State Sickness Insurance. H. H. van Eyk.—p. 1256.
Case of Lethargic Encephalitis. C. D. Cramer.—p. 1266.
Abscess in Left Brain with Right Otitis Media. Klessens.—p. 1269.

Porphyrinuria with Colics.—Snapper describes three cases of porphyrinuria accompanied with abdominal pains at the times when the execretion of porphyrin was most pronounced. The patients were a girl of 17, a woman of 24 and a man of 33. In each case in time the inevitable paralysis developed, of both the cerebral and spinal type, and proved speedily fatal. Necropsy failed to reveal any characteristic changes. A tuberculous apical process and congenital malformation of one kidney in the young girl seemed to be incidental. Between attacks of colic the patients felt entirely well until the terminal paralysis. The pains and the abnormal functioning of the liver cells responsible for the porphyrin production and also the hemorrhagic erosions in the stomach responsible for the occult hemorrhages, might be explained by a pathologic condition of the retroperitoneal plexus, spreading finally to involve the whole peripheral nervous system. Chronic lead poisoning can produce a similar picture, with porphyrinuria, colics and recurring gastric ulcer, and endogenous intoxication might be considered. Attempts to induce similar symptoms in rabbits with sulphonal poisoning were only partially successful. A normal tint of the urine does not exclude porphyrinuria, as a tuberculous alcoholic, aged 29, presented a strongly positive porphyrin spectrum though the urine was but slightly darker. At necropsy the tuberculous process was found to be close to spleen, stomach and liver, thus possibly affecting the retroperitoneal plexus, which supports Snapper's theory stated above.

Acta Medica Scandinavica, Stockholm

June 9, 1920, **53**, No. 4

*Fat Content of Blood and Liver in Diabetic Coma. H. C. Geelmuyden.—p. 381.
Kinetics of Ketonic Decomposition of Aceto-Acetic Acid. E. M. P. Widmark.—p. 393. In English.
Bacteriology and Epidemiology of Influenza. O. Thomsen and M. Kristensen.—p. 422. In French.
Central Mechanism for Movements of the Eyes. H. Gertz.—p. 445. In French.
Duration of Systole in Electrocardiogram. L. S. Fridericia.—p. 469. In German.

Fat Content of Blood and Liver in Diabetic Coma.—Geelmuyden tabulates the necropsy findings in ten diabetics and in four nondiabetics in regard to the weight of the liver and its content in glycogen and fat, and the fat content of the blood. They confirm the old assumption that the glycogen content of the liver may be high in diabetics. The amounts ranged from traces up to 44.7 per cent. in the cases with the highest acidosis. This is a larger proportion than is found in the liver of dogs with pancreas and phlorizin-starvation diabetes. The fat content does not parallel the glycogen content as a rule, but the livers with high percentage of glycogen had also large proportions of fat. On the other hand, the blood showed a much higher proportion of fat than is found in experimental diabetes. In the latter the liver contains much fat and little glycogen, while the reverse prevails in human diabetes. He ascribes this to the more gradual onset of the human diabetes. (In German.)

Hospitalstidende, Copenhagen

March 31, 1920, **63**, No. 13

The Pigment in Human Skin. A. Kissmeyer.—p. 193. Concluded in No. 14, p. 209.

April 7, 1920, **63**, No. 14

*Coagulation of the Blood in the Insane. E. J. Larsen and H. Lind.—p. 220.

Coagulation of the Blood in the Insane.—Larsen and Lind tested the coagulation time in thirty-nine healthy controls and in fifty insane patients with various forms of mental disease and found them all within normal range.

April 14, 1920, **63**, No. 15

*Extreme Deformity from Rachitis. T. Eiken and J. Fabricius-Møller.—p. 225.

Case of Monstrous Rachitis.—Eiken and Møller here report the necropsy findings at the age of 38 in a case of extreme deformity and dwarfing from rachitis. The head alone seemed to be normal, and the man was known as a Shakespeare scholar. The total height was 87 cm. and the weight 20 kg., of which the heart formed 1.1 per cent. The bone findings had nothing in common with osteomalacia.

Hygiea, Stockholm

May 16, 1920, **82**, No. 9

Occurrence of Parameningococci. L. Cronstedt.—p. 289.
*Complications of Fracture of the Humerus. W. Forssell.—p. 300.

Complications of Fracture of the Humerus.—Although usually harmless, supracondylar fracture of the humerus, especially in children, is liable to entail extremely severe complications if the brachial artery gets pierced or compressed by the fragments of bone or the median nerve is compressed. Kocher has published two cases, and Forssell here adds two more to the few cases of the kind on record. The great danger is that the injury of the artery will be overlooked, as there often is no hemorrhage, the artery being obliterated by the pressure. No collateral circulation can develop, owing to the pressure from extravasated blood and

secretions. In Forssell's two cases, the arm had been put in a plaster cast, the injury of the artery not having been suspected, but the tendency to gangrene was arrested in time, by operative opening up the seat of the fracture to correct conditions. In one of Kocher's cases the child's arm had to be amputated.

May 31, 1920, **82**, No. 10

*Suprarenal Tumor with Hypertrophy of Heart. H. Bergstrand.—p. 321.

Suprarenal Cytoma.—The pheocytoma of the right suprarenal gland was accompanied by hypertrophy of the myocardium of the left half of the heart. Bergstrand accepts this by exclusion as probably the result of chronic excessive suprarenal functioning under the stimulus of the tumor.

Norsk Magazin for Lægevidenskaben, Christiania

June, 1920, **81**, No. 6

Lethargic Encephalitis. F. Harbitz.—p. 529.
*Spontaneous Subarachnoid Hemorrhage. J. Blom.—p. 551.
*Labor Induced with Internal Measures. G. Benestad.—p. 563.
*Primary Sarcoma of Lung. K. Wildhagen.—p. 567.
Aneurysm of Main Trunk of Pulmonary Artery. K. Wildhagen.—p. 572.
*Migration of Fat. H. C. Geelmuyden.—p. 578.

Spontaneous Subarachnoid Hemorrhage.—In one of Blom's two cases, the sudden onset of weakness, the knees giving way, the intense headache, chills and vomiting, Kernig sign, bradycardia and stiff neck were explained by the blood in the lumbar puncture fluid. Great relief followed the punctures, but no micro-organisms could be found in the fluid. One case was mistaken for lethargic encephalitis, the other for epidemic meningitis. Both the meningitic and the comatous form can terminate in recovery or progress to a fatal ending. In a recent compilation of thirty-one cases, all ages are represented, from a hemophiliac boy of 7 to five subjects between 60 and 80. Petrén advises against lumbar puncture, as this might bring on the hemorrhage anew, but Blom comments on its brilliant success as a palliative. Petrén enforces complete physical and mental repose, with ice to the spine.

Medical Internal Measures to Induce Delivery.—Benestad reaffirms that dietetic measures, plus quinin and pituitary treatment or other internal measures may induce expulsion of the contents of the uterus if the pregnancy is at term or beyond, but not in the course of a normal pregnancy. In a case reported, in an elderly primipara, the fetus had died at the twenty-ninth week, and three weeks later, under castor oil, quinin and enemas, labor was induced, although there was no indication of it to start with.

Production of Sugar from Fat.—Geelmuyden presents evidence to show the connection between the lack of glycogen in the liver and the syndrome: migration of fat and ketonuria. The latter seems to be a sign that the glycogen content of the liver is very low. Only diabetes mellitus in man seems to be an exception to this rule, probably because in the course of time the organism adapts itself to the altered metabolism, the ability of the liver to produce sugar from fat increasing as its ability to retain glycogen diminishes. The lack of glycogen in the liver starts the migration of fat in order to supply fat for the liver to transform into sugar. The assumption that the hyperglycemia and the glycosuria in diabetes are due to an overproduction of sugar from albumin and fat offers a plausible explanation for all the phenomena in diabetes. This assumption is much more plausible and instructive than the opposite theory, namely, that diabetes is the result of a lesser combustion of sugar in the organism, as the cause of the glycosuria. The primary cause of the overproduction of sugar may perhaps be sought, not in the metabolism as such, but in the nervous system or the endocrine system. Geelmuyden's long article discusses both sides of the question, especially the light thrown on it by the findings in phosphorus poisoning in which there is migration of fat and ketonuria, but the glycogen disappears rapidly from the liver and the sugar from the blood. With tardy chloroform fatalities there is fatty degeneration of organs, and with chloroform anesthesia there may be glycosuria and ketonuria, and this ketonuria, like that in pregnancy and in phosphorus poisoning, is independent of the intake of carbohydrates.

Ugeskrift for Læger, Copenhagen

May 27, 1920, **82**, No. 22

*Otogenous Multiple Intracranial Disease. H. Mygind.—p. 687. Concluded in No. 23, p. 720.
*Sun Glasses. H. Larsen.—p. 700.

Otogenous Intracranial Diseases.—Mygind analyzes 207 cases at the ear and throat clinic, including 35 per cent. in which there were multiple intracranial complications. This material is studied from various standpoints, and also the indications for operative measures. The aim should be, he says, to enter the skull along the track of the infection or the most likely path. He insists on the necessity in every case of opening up the perpendicular part of the sigmoid sinus, to examine it thoroughly throughout. This sinus is involved far more often than would be supposed from the symptoms, while this form of craniotomy is comparatively harmless. In fact, he reiterates, every craniotomy that leaves the dura intact is harmless. Abnormal conditions in the temporal bone and vessels favor transmission of the infectious process. This explains the sudden and unexpected development of intracranial processes in the absence of retention of pus or other conditions usually responsible for the spread of infectious processes. The intracranial complication is a consequence which our prophylactic measures—operative or otherwise—may not be able to avert, owing to individual anatomic conditions.

Sun Glasses.—Larsen reports the results of extensive research on different kinds of glass to determine which is the most effectual in keeping out the short-waved chemical rays, that induce conjunctivitis, etc., while interfering least with vision. His decision is for yellow glass No. 23 (Nitsche and Günther scale). This absorbs 25 per cent. of the 580 wave rays; 50 per cent. of the 520 rays, and 85 per cent. of the 460 rays. This yellow tint is comfortable for the eyes and impedes vision very little. He adds that the macula is protected with yellow pigment in the retina, another physiologic argument in favor of yellow glass.

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*Differential Leukocyte Count. E. Meulengracht.—p. 715.
*Blood Platelet Count. H. C. Gram.—p. 718.
*Determination of Coagulation Time. H. C. Gram.—p. 720.

Differential Leukocyte Count.—Meulengracht describes the physical and other reasons on which he bases his advice to use a cover glass instead of a slide in making the count of the leukocytes.

Blood Platelet Count.—Gram has modified the Thomsen method in a way to bring this reliable technic for enumeration of the platelets within the reach of every practitioner. A 3 per cent. solution of sodium citrate is poured in a Sahli glass to the mark 10, and then with a not too narrow, curved needle venous blood is run down into the citrate solution to the 100 mark. After shaking and setting aside for an hour, a small quantity of the citrated plasma is drawn off with an ordinary leukocyte pipet and diluted in the proportion of 1:20 with physiologic sodium chlorid solution and a few drops liquor formaldehydi per 100 c.c. Counting the platelets in five large squares in the Thoma Zeiss counting chamber, after waiting half an hour, gives the number of thousands of platelets per cubic millimeter of the citrated plasma. The number of platelets in the blood can be computed from this figure by multiplying with one of the constants in a short table which he gives. The constants range from 0.59 with 110 hemoglobin percentage, to 0.63 with 100; 0.68 with 90; 0.73 with 80; 0.78 with 70; 0.82 with 60; 0.87 with 50; 0.92 with 40; 0.97 with 30; and 1.01 with 20 to 1.04 with 15 per cent. hemoglobin. He refers to his recent article in the *Archives of Internal Medicine*, March, 1920, which explains the importance of the platelet count in the diagnosis and prognosis of various diseases.

Coagulation Time with Citrated Plasma.—Gram describes his modification of Howell's method, and adds that it will be given with fuller details in an article soon to appear in the Johns Hopkins Hospital *Bulletin*.